

DEPARTMENT OF DEVELOPMENTAL SERVICES

STATE OF CALIFORNIA

HEALTH AND HUMAN SERVICES AGENCY



DIET MANUAL

“ Building Partnerships, Supporting Choices ”

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This diet manual has been developed by a team of dedicated nutritional professionals working under the auspices of the Department of Developmental Services, a State of California Health and Human Services agency. The collaborative efforts of this group have resulted in a simplified manual designed for use by physicians and health care professionals in providing nutrition care to individuals with developmental disabilities.

I would like to personally thank all the following individuals who contributed, revised, and edited this manual. Without your help this project never would have materialized. Thank you all for your time, hard work, and continued commitment to the individuals that we serve!

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PREFACE

The purpose of this diet manual is to establish a common language and practice for physicians and other healthcare professionals to use when providing nutritional care to individuals under the auspices of the Department of Developmental Services, a State of California Health and Human Services agency. Standard use of diet terminology can assist in providing a smooth transition for individuals transferred between developmental centers, or placed in community facilities or group homes.

This manual includes the most current information on diets in accordance with research findings. Nutritional adequacy of the diets is based upon the Dietary Reference Intakes (DRIs) established by The Food and Nutrition Board of the Institute of Medicine. The appendix includes reference materials that are pertinent and/or useful in providing appropriate nutritional care for individuals with developmental disabilities.

This manual has been simplified to include only those diets most routinely ordered. Each diet lists:

- Purpose
- Diet Principles
- Adequacy
- Foods Allowed
- Foods To Avoid
- Meal Pattern to use in menu planning and /or
- Sample Menu for one day (when appropriate)

If you have specific questions regarding any diet or have a need for a diet not listed in this manual, contact a Registered Dietitian.

Like all diet manuals, the information included in this manual is to be used only as a guide. Some individuals may require more or less of certain nutrients. Individualized assessments and care plans are essential in providing optimal nutritional care.

Each facility that uses this manual may want to customize it by adding information that is unique to their operation. For example, a list of enteral nutrition products available at your facility can be inserted in the enteral alimentation section.

California Code of Regulations, Title 22, Chapter 8 requires that “a current therapeutic diet manual be approved by the dietitian and the client care policy committee and shall be readily available to the program, health support, and dietetic personnel. It shall be reviewed annually and revised at least every five years.” The manual approval page is to be used to document the required annual review.

MANUAL APPROVAL

This diet manual has been reviewed and approved for use at

By:

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Date

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GENERAL DIETS

HOUSE DIET

PURPOSE: This diet is the “core” diet, which serves as the foundation for all other diet development. The house diet is the medium portion size on the menu.

DIET PRINCIPLES: The diet is based on principles found in the USDA Food Guide Pyramid, American Cancer Society, American Heart Association and the Food and Nutrition Board of the Institute of Medicine, The National Academies. The diet promotes higher consumption of plant foods, such as grains, fruits and vegetables. It includes low fat dairy products and encourages lower consumption of meats and high-fat foods. The diet is planned to provide variety in food, color, texture and flavor as well as seasonal menu variations.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

Approximate Composition

Calories:	2000 – 2500
Carbohydrate:	45 – 65%
Protein:	10 – 35%
Fat:	20 – 35%

FOODS ALLOWED: All foods served in the prescribed consistency are allowed in accordance with the diet principles listed above.

FOODS TO AVOID: None.

BASIC MENU FRAMEWORK

HOUSE DIET 2000 – 2500 KCAL

FOOD GROUP	Servings	Serving Size	Kcal Range
Meat (medium fat), Poultry, Fish, Dry Beans, Eggs, & Nuts	6 – 8 ounces	1 oz. cooked meat or poultry; 1 egg; ½ cup cooked dry beans or tofu; 2 TB. peanut butter	450 – 600 kcal
Bread, Cereal, Rice, & Pasta	8 – 11 servings	1 slice bread; ¾-1 cup ready-to-eat cereal; ½ cup cooked cereal, rice or pasta	640 – 880 kcal
Vegetables (including dark green or deep yellow as a source of vitamin A at least every other day)	3 – 5 servings	1 cup raw leafy vegetables; ½ cup of other vegetables (raw or cooked); ½- ¾ cup vegetable juice	75 – 125 kcal
Fruits (at least 1 should be high in vitamin C)	3 servings	1 medium apple, banana, orange, pear; ½ cup chopped, cooked or canned fruit; ½- ¾ cup fruit juice	180 kcal
Milk, Yogurt, & Cheese	3 servings	1 cup milk or yogurt; 1 ½ oz. natural cheese; 2 oz. processed cheese	270 – 360 kcal
Fats & Oils	5 servings	1 tsp margarine, oil, butter, mayonnaise; 1 TB. regular salad dressing	225 kcal
Miscellaneous*			150 kcal
Total Calories			1990 – 2520 kcal

*Jelly, sugar, syrup, dessert.

SMALL DIET

PURPOSE: This diet is indicated for individuals who require a calorie-controlled diet to achieve and/or maintain desirable body weight.

DIET PRINCIPLES: The small diet (1000-1500 calories) is based on the house diet and prescribed consistency. Some high calorie foods are omitted. Some desserts are allowed in moderation.

ADEQUACY: The need for vitamin and mineral supplementation should be assessed on an individual basis, as the Dietary Reference Intakes (DRIs) may not be met at the lower calorie level.

FOODS ALLOWED: Most foods served on the prescribed consistency are allowed. Portion sizes are reduced to control calories. Non-caloric foods are allowed as desired.

FOODS TO AVOID: None.

Approximate Composition

Calories:	1000 – 1500
Carbohydrate:	45 – 65%
Protein:	10 – 35%
Fat:	20 – 35%

BASIC MENU FRAMEWORK

SMALL DIET 1000 – 1500 KCAL

FOOD GROUP	Servings	Serving Size	Kcal Range
Meat (medium fat), Poultry, Fish, Dry Beans, Eggs, & Nuts	4 – 5 ounces	1 oz. cooked meat or poultry; 1 egg; ½ cup cooked dry beans or tofu; 2 TB. peanut butter	300 – 375 kcal
Bread, Cereal, Rice, & Pasta	3 – 6 servings	1 slice bread; ¾-1 cup ready-to-eat cereal; ½ cup cooked cereal, rice or pasta	240 – 480 kcal
Vegetables (including dark green or deep yellow as a source of vitamin A at least every other day)	3 – 4 servings	1 cup raw leafy vegetables; ½ cup of other vegetables (raw or cooked); ½-¾ cup vegetable juice	75 – 100 kcal
Fruits (at least 1 should be high in vitamin C)	3 servings	1 medium apple, banana, orange, pear; ½ cup chopped, cooked or canned fruit; ½-¾ cup fruit juice	180 kcal
Milk, Yogurt, & Cheese	2 servings	1 cup milk or yogurt; 1 ½ oz. natural cheese; 2 oz. processed cheese	180 – 240 kcal
Fats & Oils	0 – 1 serving	1 tsp margarine, oil, butter, mayonnaise; 1 TB. regular salad dressing	0 – 45 kcal
Miscellaneous*			25 – 80 kcal
Total Calories			1000 – 1500 kcal

*Jelly, sugar, syrup, dessert.

LARGE DIET

PURPOSE: This diet is indicated for individuals who require additional calories beyond those provided by the house diet to achieve and/or maintain desirable body weight. The portion sizes of the house diet may be multiplied or beverages may be fortified to increase calories.

DIET PRINCIPLES: This diet is based on the house diet and prescribed consistency with additional calories provided by increasing the volume/enriching entrees, starches and beverages.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

Approximate Composition

Calories	3000 - 3500
Carbohydrate	45 - 65%
Protein	10 - 35%
Fat	20 - 35%

FOODS ALLOWED: All foods served in the prescribed consistency are allowed.

FOODS TO AVOID: None

BASIC MENU FRAMEWORK

LARGE DIET 3000 – 3500 KCAL

FOOD GROUP	Servings	Serving Size	Kcal Range
Meat (medium fat), Poultry, Fish, Dry Beans, Eggs, & Nuts	10 – 11 ounces	1 oz. cooked meat or poultry; 1 egg; ½ cup cooked dry beans or tofu; 2 TB. peanut butter	750 – 825 kcal
Bread, Cereal, Rice, & Pasta	12 – 14 servings	1 slice bread; ¾-1 cup ready-to-eat cereal; ½ cup cooked cereal, rice or pasta	960 – 1120 kcal
Vegetables (including dark green or deep yellow as a source of vitamin A at least every other day)	6 servings	1 cup raw leafy vegetables; ½ cup of other vegetables (raw or cooked); ½-¾ cup vegetable juice	150 kcal
Fruits (at least 1 should be high in vitamin C)	6 servings	1 medium apple, banana, orange, pear; ½ cup chopped, cooked or canned fruit; ½-¾ cup fruit juice	360 kcal
Milk, Yogurt, & Cheese	3 servings	1 cup milk or yogurt; 1 ½ oz. natural cheese; 2 oz. processed cheese	270 – 360 kcal
Fats & Oils	7 servings	1 tsp margarine, oil, butter, mayonnaise; 1 TB. regular salad dressing	315 kcal
Miscellaneous*			200 – 350 kcal
Total Calories			3005 – 3480 kcal

*Jelly, sugar, syrup, dessert.

EXTRA LARGE DIET

PURPOSE: This diet is indicated for individuals who require additional calories beyond those provided by the large diet to achieve/maintain desirable body weight. The portion sizes of the large diet may be further multiplied and beverages fortified to increase calories.

DIET PRINCIPLES: This diet is based on the large diet and prescribed consistency with additional calories provided by increasing the volume/enriching entrees, starches and beverages.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

Approximate Composition

Calories	4000 - 4500
Carbohydrate	45 - 65%
Protein	10 - 35%
Fat	20 - 35%

FOODS ALLOWED: All foods served in the prescribed consistency are allowed.

FOODS TO AVOID: None

BASIC MENU FRAMEWORK

EXTRA LARGE DIET 4000 – 4500 KCAL

FOOD GROUP	Servings	Serving Size	Kcal Range
Meat (medium fat), Poultry, Fish, Dry Beans, Eggs, & Nuts	13 – 14 ounces	1 oz. cooked meat or poultry; 1 egg; ½ cup cooked dry beans or tofu; 2 TB. peanut butter	975 – 1050 kcal
Bread, Cereal, Rice, & Pasta	15 – 17 servings	1 slice bread; ¾- 1 cup ready-to-eat cereal; ½ cup cooked cereal, rice or pasta	1200 – 1360 kcal
Vegetables (including dark green or deep yellow as a source of vitamin A at least every other day)	9 servings	1 cup raw leafy vegetables; ½ cup of other vegetables (raw or cooked); ½- ¾ cup vegetable juice	225 kcal
Fruits (at least 1 should be high in vitamin C)	9 servings	1 medium apple, banana, orange, pear; ½ cup chopped, cooked or canned fruit; ½-¾ cup fruit juice	540 kcal
Milk, Yogurt, & Cheese	3 servings	1 cup milk or yogurt; 1 ½ oz. natural cheese; 2 oz. processed cheese	270 – 360 kcal
Fats & Oils	10 servings	1 tsp margarine, oil, butter, mayonnaise; 1 TB. regular salad dressing	450 kcal
Miscellaneous*			350 – 500 kcal
Total Calories			4010 – 4485 kcal

*Jelly, sugar, syrup, dessert.

**TEXTURE
MODIFICATIONS OF
HOUSE DIET**

REGULAR TEXTURE

PURPOSE: This diet is for persons who require no food consistency modifications.

DIET PRINCIPLES: No modifications are required. This diet texture can apply to any portion size or therapeutic diet.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

FOODS ALLOWED: All foods are allowed.

FOODS TO AVOID: None.

REGULAR TEXTURE SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Dry Cereal Scrambled Eggs Toast Margarine Milk Coffee Condiments	Spaghetti with Meatballs Tossed Lettuce Salad with Dressing Garlic Bread Fruit Cup Milk Condiments	Baked Chicken Breast Steamed Potatoes with Gravy Broccoli Cherry Crisp Bread Margarine Milk Condiments

CHOPPED TEXTURE

PURPOSE: This diet is for persons who have difficulty chewing some regular foods or have difficulty cutting up foods.

DIET PRINCIPLES: Some foods are modified by dicing, chopping or cutting into bite-sized pieces as tolerated. Most meats are cubed and raw vegetables and hard fruits are finely diced. This diet texture can be applied to any portion size or therapeutic diet.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Milk, cottage cheese, sliced cheese.	None
<u>MEAT OR SUBSTITUTE</u>	Cubed meat and poultry, whole fish, tender sliced lunchmeat and cheese, eggs, * Peanut Butter , cooked dried beans and peas.	All others
<u>BREADS, CEREALS, PASTA & RICE</u>	Whole grain, enriched bread, cereals, crackers, pasta, or rice.	None
<u>VEGETABLES</u>	Cubed cooked vegetables, shredded lettuce, vegetable juice, finely diced raw carrots and celery. White or sweet potato.	Whole raw vegetable salads, whole raw carrots and celery.
<u>FRUITS</u>	May be fresh, canned, or frozen, served whole (except apples), diced, or as juice. Soft fresh fruit as tolerated.	Whole fresh apples. Whole hard fresh fruit.
<u>FATS</u>	Margarine, butter, salad oil, mayonnaise.	
<u>MISCELLANEOUS</u>	Puddings, ice cream, sherbet, cakes, cookies, gelatin, pastries, pie, sugar, jelly, salt, herbs and spices, flavorings, pepper.	None

* **Peanut Butter mixed with honey or jelly and margarine (to soften).**

CHOPPED TEXTURE SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Dry Cereal Scrambled Eggs Toast Margarine Milk Coffee Condiments	Minced Spaghetti with Cubed Meatballs Shredded Lettuce Salad with Dressing Garlic Bread Diced Fruit Cup Milk Condiments	Cubed Baked Chicken Breast with Gravy Steamed Potatoes with Gravy Diced Broccoli Cherry Crisp Bread Margarine Milk Condiments

GROUND TEXTURE

PURPOSE: This diet is for persons who have difficulty chewing and/or swallowing. It is intended to minimize the need for chewing and to ease swallowing.

DIET PRINCIPLES: Foods are finely minced or ground, and moistened. Foods that are fork-mashable are included. This diet texture can be applied to any portion size or therapeutic diet.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOOD ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Yogurt, cottage cheese, custard, cheese spread (ground).	String cheese or other cheese larger than diced.
<u>MEAT OR SUBSTITUTE</u>	Moistened ground meats, ground dried beans. Meat salads made with ground meat and vegetables. Scrambled eggs. Soft tofu.	Unmoistened meats, whole hamburger patty, cold cuts, whole hard cooked egg.
<u>BREADS, CEREALS, PASTA, & RICE</u>	Cubed: bread, hamburger bun, French bread, toast, biscuits, pancakes, waffles, danish, muffins, cornbread mousse, moistened crackers. Soft, moist bread products such as moistened breadcrumbs or bread pudding can be used if regular cubed bread products are not tolerated. Cooked cereals (oatmeal, farina, malt-o-meal). Moistened rice and small chopped pasta.	Bread with: seeds, nuts, dry fruits, unsoaked crackers, gold fish crackers, teddy grahams, dry cereal, coarse whole grain cereals not softened by soaking.
<u>VEGETABLES</u>	Minced or ground tomatoes, peas, beets, lima beans, creamed or pureed corn, kidney beans, spinach, gelled vegetable salads. Mashed potatoes, ground tater tots, minced potato salad, tender steamed potatoes that can be mashed with a fork.	Raw crunchy vegetables without sauce or dressing. Potato chips, whole french fries.
<u>FRUITS</u>	Ground or minced baked apples, ripe banana, peaches, crushed pineapple, canned/cooked fruit, applesauce, pureed raisins, fruit cocktail, blueberries, strawberries. Pineapple sauce and pureed bananas can be used if crushed pineapple and minced bananas are not tolerated.	Raw and crunchy fruit, fruit roll-ups, dried fruit, coconut.
<u>FATS</u>	Margarine, butter, salad oil, mayonnaise.	
<u>MISCELLANEOUS</u>	Moistened soft cookies, cubed cake.	Seeds, unmoistened cookies, plain peanut butter.

GROUND TEXTURE SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Cooked Cereal Scrambled Eggs Cubed Toast Margarine Milk Coffee Condiments	Minced Spaghetti with Ground Meatballs Ground Lettuce Salad with Dressing Cubed Garlic Bread Ground Fruit Cup Milk Condiments	Ground Baked Chicken Breast With Gravy Steamed Potatoes with Gravy Ground Broccoli Ground Cherry Crisp Cubed Bread Margarine Milk Condiments

PUREED TEXTURE

PURPOSE: This diet is for persons who have chewing or swallowing problems and may not safely handle a ground texture.

DIET PRINCIPLES: Foods are pureed to smooth consistency unless already in a comparatively smooth form such as mashed potatoes. This texture can be applied to any diet portion size or therapeutic diet.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOOD ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Yogurt, pureed cottage cheese, custard, ice cream.	Hard and semi-hard cheeses used alone.
<u>MEAT OR SUBSTITUTE</u>	Pureed meat, poultry, fish, eggs, cooked dried beans. Soft tofu.	All others.
<u>BREADS, CEREAL, PASTA, & RICE</u>	Moistened bread crumbs or pureed baked bread pudding. Cooked cereals (pureed oatmeal, farina, malt-o-meal). Moistened pureed rice or rice cereal, pureed pasta.	All others. Dry cereal, coarse whole grain cereals not softened by soaking.
<u>VEGETABLES</u>	Pureed tomatoes, peas, beets, lima beans, pureed creamed corn, kidney beans, spinach, pureed gelled vegetable salads, mashed potatoes, pureed tater tots, and pureed potato salads.	Whole creamed corn. All other potato products.
<u>FRUITS</u>	Pureed baked apples, banana, peaches, pineapple sauce, canned/cooked fruit, applesauce, pureed raisins, fruit cocktail, blueberries, strawberries.	Raw and crunchy fruit, fruit roll-ups, dried fruit, coconut.
<u>FATS</u>	Margarine, butter, salad oil, mayonnaise.	
<u>MISCELLANEOUS</u>	Pureed soft cookies or cake.	Seeds, unmoistened cookies, peanut butter.

PUREED TEXTURE SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Cooked Refined Cereal Pureed Scrambled Eggs Pureed Bread Pudding Milk Coffee Condiments	Pureed Spaghetti with Pureed Meatballs Pureed Lettuce Salad with Dressing Pureed Garlic Bread Bake Pureed Fruit Cup Milk Condiments	Pureed Baked Chicken Breast with Gravy Mashed Potatoes with Gravy Pureed Broccoli Pureed Cherry Crisp Pureed Bread Pudding Milk Condiments

CLEAR LIQUID DIET

CLEAR LIQUID DIET

PURPOSE: This diet is for persons requiring a source of fluids with calories and electrolytes during acute stages of many illnesses, especially those with elevated temperatures, in acute inflammatory condition of gastro-intestinal tract, post-operative and in conditions when it is necessary to minimize the amount of fecal material in the colon.

DIET PRINCIPLES: Clear fluids, or foods which are liquid upon reaching the stomach(i.e. gelatin) provide calories, electrolytes and fluids without stimulating extensive digestive processes, prevent dehydration and reduce colonic residue to a minimum.

ADEQUACY: This diet is inadequate in most nutrients when compared with the Dietary Reference Intakes (DRIs) and should be used for only a short period of time (24-48 hrs.)

Fortified clear liquid replacement, a lactose, cholesterol, gluten and fat-free oral supplement can be provided. Three servings of fortified clear liquid replacement provide more than one third of the DRIs for protein and all known essential vitamins and minerals.

FOODS ALLOWED: Apple, cranberry or grape juice, clear broth, gelatin or gelatin water, sugar, coffee or tea and fortified clear liquid replacement.

FOODS TO AVOID: All others.

CLEAR LIQUID DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
8 oz. Broth 6 oz. Apple Juice 4 oz. Flavored Gelatin/ 8 oz. Gelatin Water Tea, Coffee 8 oz. Fortified Clear Liquid Replacement Sugar	8 oz. Broth 6 oz. Apple Juice 4 oz. Flavored Gelatin/ 8 oz. Gelatin Water Tea, Coffee 8 oz Fortified Clear Liquid Replacement Sugar	8 oz. Broth 6 oz. Apple Juice 4 oz. Flavored Gelatin/ 8 oz. Gelatin Water Tea, Coffee 8 oz. Fortified Clear Liquid Replacement Sugar

CLEAR LIQUID DIET - MILK ALLERGY SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
8 oz. Broth 6 oz. Apple Juice 4 oz. Gelatin/ 8 oz. Gelatin Water Tea, Coffee Sugar	8 oz. Broth 6 oz. Apple Juice 4 oz. Gelatin/ 8 oz. Gelatin Water Tea, Coffee Sugar	8 oz. Broth 6 oz. Apple Juice 4 oz. Gelatin/ 8 oz. Gelatin Water Tea, Coffee Sugar

HYDRATION

HYDRATION

PURPOSE: Adequate hydration is essential for life. It is necessary to regulate body temperature, transport nutrients, moisten body tissues, comprise body fluids, and make waste products soluble for excretion.

DIET PRINCIPLES: As the most plentiful substance in the human body, water is also the most plentiful nutrient in the diet. The amount of water recommended for an individual varies with age, activity, medical condition, and physical condition. The water in juice, iced tea, milk, decaffeinated coffee, and other beverages contributes the majority of water in the diet. Solid foods also contribute water to the diet, but are not usually counted in the amount of water provided per day.

Water deficiency, or dehydration, is characterized by dark urine, decreased skin turgor, dry mouth, lips, and mucous membranes, headache, a coated wrinkled tongue, dry or sunken eyes, weight loss, a lowered body temperature and increased serum sodium, albumin, blood urea nitrogen (BUN), and creatinine values. Thirst is often the first sign of the need for more hydration. Dehydration may be caused by inadequate intake in relation to fluid requirements or excessive fluid losses due to fever, increased urine output, diarrhea, draining wounds, ostomy output, fistulas, environmental temperature, or vomiting. Concentrated or high protein tube feeding formulas may increase the water requirement.

Water excess or over hydration is rare and may be the result of inadequate output or excessive intake. Over hydration is characterized by increased blood pressure, decreased pulse rate, edema, and decreased serum sodium, potassium, albumin, BUN, and creatinine values. Fluid restrictions may be necessary for certain medical conditions such as kidney or cardiac disease. For those on fluid restrictions, the Registered Dietitian must calculate fluid needs on an individual basis.

ADEQUACY: The house diet provides about 1080 cc (36 oz.) of fluid per day.

APPROXIMATE FLUID CONTENT OF COMMON FOODS

FOOD	FLUID OUNCES	HOUSEHOLD MEASURE	METRIC MEASURE
Juice	2	¼ cup	60 cc
	3	⅓ cup	90 cc
	4	½ cup	120 cc
	8	1 cup	240 cc
Coffee, Tea, Decaffeinated coffee	6	⅔ cup	180 cc
Gelatin	4	½ cup	120 cc
Ice Cream, Sherbet	3	⅓ cup	90 cc
Soup	6	⅔ cup	180 cc
Liquid Coffee Creamer	1	2 TB.	30 cc

ESTIMATING DAILY FLUID REQUIREMENTS
FOR HEALTHY INDIVIDUALS

CHILDREN

Infants:	140 to 150 cc/kg		
Children:	Method 1:	50 to 60 cc/kg	
	Method 2:	3 to 10 kg body weight:	100 cc/kg
		11 to 20 kg body weight:	1000 cc + 50 cc/kg > 10
		More than 20 kg:	1500 cc + 20 cc/kg >20

ADULTS**

Method 1:	30 to 35 cc per weight in kilograms
Method 2:	1 cc fluid per calorie consumed
Method 3:	100 cc/kg for first 10 Kg body weight + 50 cc/kg for second 10 Kg body weight + 20 cc/kg for remaining kg body weight (age < 50) + 15 cc/kg for remaining Kg body weight (age > 50)
Method 4:	Age in years:
	16 – 30 (active) 40 cc/kg
	20 – 55 35 cc/kg
	55 to 75 30 cc/kg
	>75 25 cc/kg

**The 1 cc per calorie method should be used with caution, as it will underestimate the fluid needs of those with low calorie needs. Persons who are significantly obese may best be evaluated by method 3, because it adjusts for high weight.

References:

1. American Dietetic Association: *Manual of Clinical Dietetics*. 6th ed. Chicago, IL: Chicago Dietetic Association, South Suburban Dietetic Association, Dietitians of Canada; 2000.
2. Food and Nutrition Board: *Recommended Dietary Allowances*. 10th ed. Washington, DC: National Academy Press; 1989.
3. Heird WC. *Nutritional Requirements During Infancy*. In: Shils ME, Olson JA, Shike MA, eds. *Modern Nutrition in Health & Disease*, 9th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 1999.
4. Schwenk WF, Olson D. *Pediatrics*. In: Gottschlich MM ed. *The Science and Practice of Nutrition Support*. Dubuque, IA: Kendall/Hunt Publishing; 2001.
5. Whitmire SJ. *Fluid and Electrolytes*. In: Gottschlich MM ed. *The Science and Practice of Nutrition Support*. Dubuque, IA: Kendall/Hunt Publishing; 2001.

THICKENED LIQUID DIET

PURPOSE: To provide liquids that allow for safe swallowing, minimize the risk of choking and aspiration, and facilitate drinking liquids to support hydration and independence.

DIET PRINCIPLES: Thickened liquids are indicated for individuals who have dysphagia, a swallowing disorder characterized by abnormality in the transfer of a liquid or food bolus from the mouth to the stomach. Dysphagic symptoms may include poor bolus control associated with a delayed or premature swallow, pharyngeal residuals, and choking or coughing associated with airway penetration.

When an individual exhibits symptoms of dysphagia, they are evaluated by an occupational therapist and/or speech pathologist, per physician's order, to determine swallowing ability and appropriate liquid consistency.

More detailed information about thickened liquids can be found in The American Dietetic Association's *National Dysphagia Diet: Standardization for Optimal Care*.

ADEQUACY: In designing a meal plan that includes thickened liquids, particular attention is given to assuring adequacy of hydration and vitamin/mineral intake. A Registered Dietitian should review all individuals on a thickened liquid diet.

LIQUID CONSISTENCIES AVAILABLE

THIN LIQUIDS: Water, coffee, tea, all fruit juices, punch, broth, soup, milk, fortified drink, liquid supplements, gelatin, milkshakes, ice, ice cream, and sherbet are also considered thin liquids, as they quickly take this form when melting.

THICKENED LIQUIDS are available in three levels: nectar-like, honey-like and spoon-thick consistency. All orders for thickened liquids should include the following: **"No gelatin, ice cream, or sherbet," unless otherwise specified.**

- ❖ **NECTAR-LIKE CONSISTENCY:** Coats a spoon and falls in small droplets. Commercially prepared pre-thickened fruit juice, punch, diet punch, milk, fortified drink, coffee and iced tea. Other thin liquids are to be thickened to nectar/syrup consistency by trained staff using instant food thickener.
- ❖ **HONEY-LIKE CONSISTENCY:** Drips from a spoon in small clumps. Commercially prepared pre-thickened fruit juice, punch, diet punch, milk, fortified drink, coffee and iced tea. Other thin liquids are to be thickened to honey consistency by trained staff using instant food thickener.
- ❖ **SPOON-THICK CONSISTENCY:** Falls from a spoon in large clumps; a spoon will stand up in thickened liquid for a few seconds before falling to side. Thin liquids are to be thickened to pudding consistency by trained staff using instant food thickener.

FLUID RESTRICTION DIET

PURPOSE: This diet is designed to prevent fluid retention in the body. It may be ordered for individuals with congestive heart failure, hypertension, acute renal failure, chronic renal failure and patients with ascites or edema. This diet may be used in combination with a Sodium Controlled diet or any other therapeutic diet as per the physician's prescription.

DIET PRINCIPLES: The diet order specifies the daily fluid allowance in cubic centimeters (cc) or milliliters (ml). All fluids are measured. All foods such as ice cream, sherbet, gelatin, fruit ice, popsicle and juice bars, which liquefy at room temperature, are also measured. Use of standard measuring cups or spoons is necessary. Any additional fluids added to cereal, breadcrumbs, health shake or milk shakes are measured. Canned foods should be drained.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

FOODS ALLOWED: Most solid foods are permitted. Liquid food items are allowed in limited amounts, foods that liquefy at room temperature are given in limited amounts. Water used for the taking of medications should be counted in the total amount of fluid intake for the day. Medications can also be taken with applesauce or gelatin.

FOODS TO AVOID: All liquids in excess of the amount of fluids prescribed by the physician. The following sample menu provides 960 ml of liquid per 24 hours. An additional 240 ml of water can be given with medications, for a total of 1200 ml of fluid/day.

FLUID RESTRICTION DIET **SAMPLE MENU**

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
½ c. Orange Sections (drained) ¾ Cold Cereal 1 svg. Scrambled Egg 1 sl. Toast 1 tsp. Margarine 1 tsp. Jelly 8 oz. Milk 8 oz. Coffee	3 oz. Meat Balls 6 oz. Spaghetti 4 oz. Tossed Lettuce Salad w/Dressing 1 sl. Garlic Bread 1 Fruit Cup (drained) 8 oz. Fruit Punch	3 oz. Baked Chicken with Gravy 4 oz. Steamed Potato with Gravy 4 oz. Broccoli 1 svg. Cherry Crisp 1 sl. Bread 1 tsp. Margarine 8 oz. Milk

Note: Refer to Hydration section of this manual for “Approximate Fluid Content of Foods”.

TIPS FOR RESTRICTING FLUID INTAKE

1. Encourage the individual to drink according to thirst. If high sodium foods are avoided, the individual will be less thirsty.
2. Drinking for habit or to be social is discouraged.
3. Provide the most nutrition from allowed liquids. Give up coffee, tea, soft drinks, and alcoholic beverages, before milk, soup, and juices.
4. Offer allowed fruits and vegetables (ice cold) between meals.
5. A slice of lemon will help moisten a dry mouth. Sour hard candies or chewing gum can also help.
6. Recommend to the individual to rinse his/her mouth with water but don't swallow it.
7. Take medications with mealtime liquids, especially phosphate binders.
8. Offer some lemon juice in ice cubes—you'll use fewer. Use about ½ lemon per tray of water. Lemonade can be frozen into individual Popsicles in an ice cube tray.
9. Measure daily ice allowance and store in a special container in the freezer. Most people find ice more satisfying than water since it stays in the mouth longer.
10. Use very small cups and glasses for beverages.
11. Remember, a pint (480 ml.) of retained fluid will equal one pound (.45 kg.) of fluid weight gain.
12. If the individual is thirsty, try offering something like bread and margarine with jelly to eat before taking liquids. Often thirst is really the sensation of having a dry mouth. Food can alleviate a dry mouth as well as liquid.
13. Try to keep the individual as active as possible. When he/she is bored, he/she may become preoccupied with a desire for liquids.
14. If the individual eats well-balanced meals, he/she will have less desire for excess liquids.

References:

1. John Hopkins Bayview Medical Center. *Guidelines For Fluid Restriction*. October 2002.
2. American Dietetic Association. *Manual of Clinical Dietetics*, 6th Edition, 2000.

THERAPEUTIC DIETS

ANTI-REFLUX DIET

PURPOSE: The purpose of the anti-reflux diet is to reduce discomfort associated with esophageal reflux by decreasing the reflux of gastric contents into the esophagus and excluding foods that inflame the esophageal mucosa.

DIET PRINCIPLES: This diet restricts items that may stimulate gastric acid production (caffeine, colas, coffee, alcohol and red pepper), cause esophageal irritation (citrus, tomato, vinegar, coffee, black pepper), reduce esophageal sphincter pressure (fat, caffeine, chocolate, alcohol, peppermint oil, spearmint oil, garlic and onions), and cause air to come up from the stomach (carbonated beverages and bell peppers).

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Low-fat or skim milk, yogurt, custard, ice cream.	Chocolate.
<u>MEAT & SUBSTITUTES</u>	Meats, fish, poultry, cheese, eggs, peanut butter, & dried beans.	Processed meats such as corned beef, salami, bologna, etc; hot dogs, bacon, sausage.
<u>BREAD, CEREAL, RICE, & PASTA</u>	Whole grain or enriched breads & cereals, crackers, pasta, rice.	None
<u>VEGETABLES</u>	All other vegetables not listed under "Foods to Avoid"; fresh, canned, frozen, served whole, diced or as juice; whole kernel or creamed corn. White or sweet potatoes.	Tomato, tomato juice, bell pepper, garlic, onion unless tolerated by individual.
<u>FRUITS</u>	All other fruits not listed under "Foods to Avoid"; fresh, canned, frozen, served whole, diced or as juice.	Citrus fruits and juice unless tolerated by individual.
<u>FATS</u> Use sparingly	Butter, margarine, salad oil, mayonnaise.	High-fat gravies, sauces and fried foods.
<u>BEVERAGES</u>	Punch, water, decaffeinated coffee, thickened water (contains small amount of lemon flavoring), non-mint tea.	Coffee, mint tea, cocoa, colas, caffeine, alcohol, carbonated beverages.
<u>MISCELLANEOUS</u>	Puddings, sherbet, cakes, cookies, gelatin, pastries, pies, sugar, jelly. High fat items in moderation.	Chocolate.
<u>SEASONINGS & CONDIMENTS</u> Use sparingly	Salt, herbs, spices and flavorings not listed as "Foods to Avoid".	Black pepper, chili powder, mustard, catsup, vinegar.

ANTI-REFLUX DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Apple Juice Dry Cereal Scrambled Eggs Toast Margarine Milk Coffee- Decaf Condiments	Spaghetti w/White Sauce and Plain Meatballs Tossed Salad Dressing French Bread Margarine Fruit Cup Milk Condiments	Baked Chicken Breast Steamed Potatoes Gravy Broccoli Cherry Crisp Bread Margarine Milk Condiments

CHOLESTEROL CONTROLLED DIET

PURPOSE: This diet is to reduce the amount of cholesterol and other foods high in saturated fats in the body. This diet is used in the management of cardiovascular disease and hypercholesterolemia.

DIET PRINCIPLES: The proportion of monounsaturated and polyunsaturated fatty acids is increased while the saturated fatty acids are decreased. Increased intake of foods high in fiber is recommended. The suggested amount of cholesterol is 300 mg or less per day.

Cholesterol is a soft, fatty substance found in body cells. The cholesterol and saturated fats consumed may raise blood cholesterol level. Low density lipoprotein (LDL) builds up on the inner walls of the arteries, which can cause blood clots, block the blood flow to the heart and cause a heart attack or stroke. High density lipoprotein (HDL) carries harmful cholesterol away from the arteries and helps prevent heart disease. High HDL levels are desirable. Triglycerides are another type of fat and high levels are often found in those who have high cholesterol levels and heart problems.

The following table shows the classifications of low-density lipoproteins (LDL), total cholesterol, and high-density lipoproteins (HDL) according to the third report from the National Cholesterol Education Adult Treatment Program.*

Classification of LDL, Total, and HDL Cholesterol (mg/dl)*

LDL Cholesterol

<100	Optimal
100-129	Near optimal/above optimal
130-159	Borderline high
160-189	High
≥190	Very high

Total Cholesterol

<200	Desirable
200-239	Borderline high
≥240	High

HDL Cholesterol

<40	Low
≥60	High (desirable)

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Non-fat milk, 1% powdered, evaporated, buttermilk. Yogurt and cottage cheese made with skim milk. Skim farmer's cheese like Parmesan, Feta cheese, Part-skim mozzarella, Part-skim ricotta, Diet cheeses. Ice milk and fat free ice cream.	Whole, 2% and low-fat milk. Dairy products made with whole milk, 2% and low-fat milk. Ice cream, cream, half and half, nondairy cream, whipped topping, sour cream.
<u>MEAT & SUBSTITUTE</u> Limited to 5-6 oz per day (cooked weight) Recommended preparation methods are broiling, roasting, grilling, or boiling. Weigh meat after cooking. Limit to 4 egg yolks per week.	Beef, pork, lamb: lean cuts well trimmed before cooking, baked, broiled or boiled. Fish: fresh, frozen and canned in water. Poultry (without skin). 95% fat free luncheon meat. Egg whites and egg substitutes.	Any fried, fatty or heavily marbled meat, fish or poultry. Fish packed in oil. Regular luncheon meats as bologna, salami and sausage.
<u>BREADS, CEREALS, PASTA, & RICE</u>	Whole grain breads (non-fat). Enriched breads, soda crackers, cold cereals, cooked cereals, whole grain cereal. Popcorn made with allowed oil. Rice, barley and multi grain pasta.	Biscuits. Breads containing egg, cheese or made with fat. Sweet rolls, french toast, doughnuts, fritters, buttered popcorn and muffins. Granola type cereal, popovers, snack crackers with added fat, snack chips. Fried rice or fried noodles. Stuffing.
<u>VEGETABLES</u>	All fresh, frozen or canned vegetables prepared without fats, oil or fat containing sauces.	Buttered, au gratin, creamed or fried vegetables.

<u>FRUITS</u>	Fresh, frozen, canned, dried fruits, fruit juices.	Fried fruits.
<u>FATS</u> Limited to 6-8 tsp per day	Oils: olive, canola, safflower, corn, soybean. Margarine: soft or liquid form. Salad dressing: diet or made from oils allowed. Nuts: almonds, dry roasted	Coconut and palm oil. Stick margarine, butter, lard, shortening and bacon fat. Cream sauces. Gravies.
<u>MISCELLANEOUS</u>	Sugar, honey, jelly, jam, molasses, maple syrup. Fat free candy. Cocoa powder. Fruit ice, sherbets, gelatin, meringues and all fat free desserts.	Chocolate. Candy made with cream, cocoa fats, coconut. Most cakes, cookies, pies, doughnuts, cream puffs and turnovers.
<u>SEASONINGS & CONDIMENTS</u>	Salt, pepper, spices, herbs, relishes, ginger, mustard, catsup.	None

CHOLESTEROL CONTROLLED DIET SAMPLE MENU

APPROXIMATELY 300 MG. CHOLESTEROL

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
4 oz. Orange Juice ¾ c. Cold Cereal 2 oz. Egg Substitute 2 sl. Toast 2 tsp. Margarine 2 tsp. Jelly 8 oz. Nonfat Milk 6 oz. Coffee	3 oz. Lean Meatballs 6 oz. Spaghetti 4 oz. Tossed Salad with 1 oz. Fat Free Dressing 4 oz. Fruit Cup 1 sl. Bread 1 tsp. Margarine 8 oz. Nonfat Milk	3 oz. Baked Chicken-no skin 4 oz. Steamed Potatoes 1 oz. Fat Free Gravy 4 oz. Broccoli 4 oz. Cherries 1 sl. Bread 1 tsp. Margarine 8 oz. Nonfat Milk

*Reference:

National Cholesterol Education Adult Treatment Program (ATP III) - National Institute of Health Full Report Final Version 11-19-02.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) DIET

PURPOSE: This diet is indicated for individuals with COPD for the purpose of minimizing fatigue while eating, decreasing excess carbon dioxide production and improving overall client outcome.

DIET PRINCIPLES: The diet is tailored to each individual's caloric needs, eating habits, treatment goals, and presence of other medical conditions. The following should be considered for individuals with COPD: Adequate calories provided in less volume (e.g. smaller more frequent feedings) if the individual is easily fatigued while eating, sodium restriction for peripheral edema and adjustment of calories as needed to achieve desirable body weight (excess calories should be avoided). Diets with 50% of calories from carbohydrate are usually tolerated. Fat may be the preferred calorie source for individuals with hypercapnea (provided COPD is not associated with heart disease), since less CO₂ is produced than with carbohydrate metabolism. Pulmonary formulas (high fat/low carbohydrate) are available for oral or tube feeding. Potential side effects of a high fat/low carbohydrate diet (e.g. decreased gastric emptying, increased gastrointestinal side effects and potential problems related to decreased carbohydrate intake) need to be considered.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

FOODS ALLOWED: All.

FOODS TO AVOID: None.

CONSISTENT CARBOHYDRATE DIET

PURPOSE: The consistent carbohydrate diet aids in the attainment and preservation of the best possible blood glucose and lipid levels.

DIET PRINCIPLES: The consistent carbohydrate diet is only one part of the total team management of the individual with diabetes mellitus. It is essential that a registered dietitian plans the diet and be involved in the care of a individual with diabetes mellitus.

The use of a consistent carbohydrate intake throughout the day, as represented by a meal plan, is fundamental to the care of the individual with diabetes mellitus. Whether an individual has Type 1 or Type 2 diabetes, a general food guide, such as the Food Guide Pyramid or the Food Guide to Healthy Eating, is an appropriate meal pattern. There is no one method to planning meals for persons with diabetes mellitus. The meal plan must be adjusted to the individual's usual food intake, usual activity pattern, and based on the individual's nutrition assessment. **Use of the terms "ADA diet," "no concentrated sweets" and "no sugar added" in conjunction with planning meals for individuals with diabetes is not appropriate.**

Typical meal plans for the individual with diabetes using a consistent carbohydrate approach provide the same amount of carbohydrate for each meal and snack every day. An individual would receive the same amount of carbohydrate at each breakfast every day, rather than receiving the same amount of carbohydrate at every breakfast, lunch, and dinner. In other words, the individual's blood glucose response to the amount of carbohydrate provided is measured. In planning the consistent carbohydrate diet, attention is given to the amount of carbohydrate consumed, rather than the source of the carbohydrate. Nutritive sweeteners, such as sucrose, fructose, and honey may be used provided the carbohydrate present in the sweetener is calculated as a part of the total carbohydrate intake for the day. The total carbohydrate provided by the meal plan is balanced with the individual's intake, exercise, and desired blood glucose and lipid values.

The following are general guidelines for nutrients when planning a consistent carbohydrate diet.

Approximate Composition

Carbohydrate:	45-60 % of total calories
Protein:	10-20 % of total calories
Fat:	Less than 30 % of total calories
Fiber:	20-35 grams

ADEQUACY: The consistent carbohydrate diet can be planned to meet the Dietary Reference Intakes (DRIs) for most nutrients. The need for vitamin and mineral supplementation should be assessed on an individual basis.

SUGGESTED PATTERN
FOR
CONSISTENT CARBOHYDRATE

Foods may be provided as suggested in the following table. The table should be used only as a guide in planning the diet. Modifications within the prescribed dietary restrictions may be made in order to adapt the diet to the normal dietary pattern of the individual. A sample menu is provided after the exchange table.

CONSISTENT CARBOHYDRATE- 2000 CALORIES

	Total Exchanges Per Day	Breakfast	Lunch	Dinner	HS Snack	CHO gm	Pro gm	Fat gm	Cal
<u>Carbohydrate Group</u>									
Starches	9	2	2	3	2	135	27	9	720
Fruits	5	2	1	1	1	75	0	0	300
Milk (Fat free)	3	1	1	-	1	36	24	3	270
Vegetables	4	-	2	2	-	20	8	0	100
<u>Meat & Meat Substitute Group</u>									
Meat (Medium fat)	6	0	2	3	1	0	42	30	438
<u>Fat Group</u>									
Fat	4	1	1	1	1	0	0	20	180
					Total	266	102	62	2023

CONSISTENT CARBOHYDRATE DIET SAMPLE MENU

2000 CALORIE

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>	<u>2000 SUPPLEMENTS</u>
8 oz. Orange Juice 2 oz. Scrambled Eggs ½ c. Cold Cereal 1 sl. Toast 1 tsp. Margarine 8 oz. Fat Free Milk Coffee Sugar sub., salt, pepper	2 oz. Meatballs ½ c. Spaghetti 2 oz. Marinara Sauce 1 c. Tossed Salad 2 tsp. Diet Salad Dressing 1 sl. Garlic Bread 4 oz. Fruit Cup 8 oz. Fat Free Milk Sugar sub., salt, pepper	3 oz. Baked Chicken Breast 8 oz. Steamed Potatoes 2 oz. Diet Gravy 8 oz. Steamed Broccoli 1 sl. Bread 1 tsp. Margarine 4 oz. Cherries Sugar sub., salt, pepper	8 oz. Fat Free Milk 2 sl. Bread 1 oz. Turkey 1 tsp. Mayonnaise 1 Fresh Apple

Approximate Nutrient Composition of Sample Menu:

2023 Kcal.	266 gm. Carbohydrate	52%
	102 gm. Protein	20%
	62 gm. Fat	28%

References:

1. American Diabetes Association. *Translation of the Diabetes Nutrition Recommendations for Health Care Institutions: Position Statement*. J Am Diet Assoc. 1997;97:52–53.
2. American Diabetes Association. *Translation of the Diabetes Nutrition Recommendations for Health Care Institutions: Position Statement*. Diabetes Care. 2003;26:S70-S72.
3. American Dietetic Association: *Manual of Clinical Dietetics*. 6th Ed. Chicago, IL: Chicago Dietetic Association, South Suburban Dietetic Association, Dietitians of Canada; 2000.
4. American Diabetes Association, Inc. and American Dietetic Association: *Exchange Lists for Meal Planning*. Chicago, IL: American Dietetic Association; 1995.
5. Gillespie SJ, Kulkarni K D, and Daly AE. *Using Carbohydrate Counting in Diabetes Clinical Practice*. J Am Diet Assoc. 1998;98:897–905.
6. Lipkin E. *New Strategies for the Treatment of Type 2 Diabetes*. J Am Diet Assoc. 1999;99:329–334.
7. Monk A, Barry B, McClain K, Weaver T, Cooper N, Franz MJ. *Practice Guidelines for Medical Nutrition Therapy Provided by Dietitians for Persons with Non-Insulin Dependent Diabetes Mellitus*. J Am Diet Assoc. 1995;95:999-1006.

FAT CONTROLLED DIET

PURPOSE: The fat controlled diet is used for to relieve symptoms of diarrhea, steatorrhea, and flatulence or to control nutrient losses caused by the ingestion of excess dietary fat. This diet may be used in the treatment of diseases of the hepatobiliary tract, pancreas, intestinal mucosa, and the lymphatic system as well as the malabsorption syndromes.

DIET PRINCIPLES: The fat intake is restricted as low as 25 grams per day depending on the severity of the condition and per physician's order.

ADEQUACY: The diet meets the Dietary Reference Intakes (DRIs) for most nutrients. Prolonged conditions of steatorrhea or diarrhea may cause nutrient deficiencies of calcium, magnesium, iron, fat-soluble vitamins, folic acid, Vitamin B-12 and B complex vitamins. Vitamin and mineral supplementation may be necessary.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u> Limited to 2-3 servings per day.	Nonfat milk, 1% milk powdered evaporated, buttermilk. Yogurt and cheese made with skim milk. Skim farmer's cheese like parmesan (3 TB. or ½ oz.), Feta cheese (1 oz.), part-skim mozzarella(1 oz.), part-skim ricotta (1/4 c.), fat free cheeses, Ice milk and fat free ice cream.	Whole, 2 % reduced fat milk. Dairy products made with whole milk, 2 % and low fat milk. Ice cream, cream, half and half, nondairy cream, whipped topping and sour cream.
<u>MEAT & SUBSTITUTES</u> Limited to 4-6 oz per day (cooked weight)	Beef, pork, lamb; lean cuts well trimmed before cooking, baked, broiled or boiled. Fish: fresh, frozen and canned in water. Poultry (without skin). 95% fat free luncheon meat. 4 egg yolks only per week, egg whites and egg substitutes. Dry beans or peas cooked without fat.	Any fried, fatty or heavily marbled meat, fish or poultry. Fish packed in oil. Processed meats such as bologna, salami, and sausage. Peanut butter.
<u>BREAD, CEREAL, RICE & PASTA</u>	Whole grain breads, enriched bread, saltines, soda crackers, cold cereals, cooked cereals, and whole grain made	Biscuits, breads containing egg, cheese or made with fat, sweet rolls, french toast, doughnuts, fritters, buttered

	without fat. Unbuttered popcorn, rice, pasta, and barley.	popcorns, muffin, granola type cereal, popovers, snack crackers with added fat, snack chips, stuffing, fried noodles or fried rice.
<u>VEGETABLES</u>	All fresh, frozen or canned vegetables prepared without fats, oil or fat containing sauces.	Buttered, au gratin, creamed or fried vegetables.
<u>FRUITS</u>	Fresh, frozen, canned or dried fruits, fruit juices.	Fried fruits.
<u>FATS</u> Limited to 1 tablespoon (total) per day.	Oils: olive, canola, safflower, corn or soybean. Margarine: soft or liquid form. Salad dressing: diet or regular made from oils allowed. Fat free mayonnaise.	Coconut and palm oil. Stick margarine, butter, lard, shortening and bacon fat. Avocado, nuts, coconut and olives.
<u>MISCELLANEOUS</u>	White sauce made with nonfat milk, gravies made without fat, fat free candies, cocoa powder, fruit ice, sherbet, gelatin, meringues and all fat free desserts.	Apple butter, cream sauces, gravies, chocolate and chocolate syrup, candies made with cream, cocoa fats, nuts, most cakes, cookies, pies, cream puffs and turnovers.
<u>SEASONINGS AND CONDIMENTS</u>	Salt, pepper, spices, herbs, relishes, ginger, mustard, catsup, sugar, honey, jelly, jam, molasses, and maple syrup.	None.

FAT CONTROLLED DIET SAMPLE MENU

40 GRAMS FAT DIET

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
4 oz. Orange Juice ¾ c. Cold Cereal 2 oz. Egg Substitute 2 sl. Wheat Toast 2 tsp. Jelly 1 tsp. Margarine 8 oz. Nonfat milk 6 oz. Coffee Condiments	3 oz. Lean Meatballs 6 oz. Spaghetti 4 oz. Tossed Salad 1 oz. Fat Free Dressing 1 sl. Wheat Bread 1 tsp. Jelly 1 tsp. Margarine 4 oz. Fruit Cup 8 oz. Nonfat Milk Condiments	3 oz. Baked Chicken (no skin) 1 oz. Fat Free Gravy 4 oz. Steamed Potato 4 oz. Broccoli 1 sl. Wheat Bread 1 tsp. Jelly 1 tsp. Margarine 4 oz. Cherries 8 oz. Nonfat Milk Condiments

Reference:

Mayo Clinic Diet Manual- A Handbook of Dietary Practices. Fifth Edition, 1981 W.B. Saunders Company.

FIBER CONTROLLED DIET

PURPOSE: This diet may be used when a reduction in stool frequency and volume is desirable. Diet is generally for short-term use following diarrhea, colitis, partial bowel obstruction, diverticulitis, megacolon and before or after bowel surgery.

DIET PRINCIPLES: This diet reduces non-digestible food fibers and residue. This diet can also be used for a low residue diet by limiting milk to two cups or less per day and reducing fat.

ADEQUACY: This diet may not meet the Dietary Reference Intakes (DRIs) for calcium and Vitamin D if fluid milk is restricted.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u> <u>Limit to 2 cups or less if low residue</u>	Milk (used as a beverage and/or in cooking), cottage cheese, cheese, creamed dishes, ice cream.	Milk as a beverage in excess of 2 cups (for low residue diets).
<u>MEAT OR SUBSTITUTE</u>	Eggs, tender or ground meat, fish, poultry, casseroles.	Fried foods, frankfurters, sausage, bologna, high-seasoned casseroles and meats, nuts, peanut butter (for low residue diets).
<u>BREADS, CEREALS, RICE, & PASTA</u>	Foods made with enriched refined flour and grains, white bread, soda crackers or saltines, farina, cream of rice, cornmeal, refined dry cereals.	All whole grain products or those made with bran, nuts, raisins, or coconut. Brown or wild rice.
<u>VEGETABLES</u>	All allowed vegetables must be cooked and chopped or pureed: squash, zucchini, green & wax beans, carrots, cauliflower, beets, spinach, tomato sauce, strained vegetable juice. Baked potato without skin, mashed potato, peeled yams, peeled sweet potatoes.	All raw vegetables, all salads, broccoli, onions, sprouts, cabbage, raw brussel sprouts, peas, dried beans (whole or pureed), corn, creamed corn, lima beans, potato skin.

<u>FRUITS</u>	Strained orange juice and fruit juices, except prune juice; cooked, chopped, or pureed fruits without skins or seeds; peaches, pears, applesauce, apricots; fresh or pureed bananas.	Raw fruit except bananas; prunes, raisins, pineapple, berries with seeds, and all other fruits, prune juice.
<u>FATS</u>	Butter, margarine, mayonnaise.	Olives.
<u>BEVERAGES</u>	Coffee, tea, punch, water, carbonated beverages.	None.
<u>MISCELLANEOUS</u>	Plain (contains no nuts, seeds, or chunks of fresh fruit) custard, gelatin, ice cream, sherbet, cakes, cookies, jelly	All others.
<u>SEASONINGS & CONDIMENTS</u>	Pepper, salt, flavorings, broth, spices, herbs	None.

FIBER CONTROLLED DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Strained Orange Juice Refined Dry Cereal Scrambled Eggs White Toast Margarine Milk Coffee Condiments	Spaghetti with Meatballs Steamed Zucchini Garlic Bread Canned Fruit Cup Milk Condiments	Baked Chicken Breast Steamed Potatoes with Gravy Green Beans Peach Crisp White Bread Margarine Fruit Punch Condiments

HIGH FIBER DIET

PURPOSE: This diet may be used in the treatment of constipation, hemorrhoids, diverticular disease, irritable bowel syndrome and obesity.

DIET PRINCIPLES: A high fiber diet is a house diet with the addition of high fiber foods. It is recommended to consume 20 to 35 grams of dietary fiber from a variety of sources. Adequate fluid intake is also recommended

ADEQUACY: This diet meets the Dietary Reference Intake (DRIs) for most nutrients.

DIETARY FIBER CONTENT OF FOODS

FOOD ITEMS	SERVING SIZES	DIETARY FIBER IN GRAMS PER SERVING
FRUITS		
APPLE WITH SKIN, RAW	1 medium	3.7
APRICOTS, RAW	3 medium	2.5
AVOCADO	1 medium	8.5
BANANA	1 medium	2.7
BLACKBERRIES, RAW	½ cup	3.8
BLUEBERRIES, RAW	1 cup	3.9
CANTALOUPE in pieces	1 cup	1.3
CHERRIES, RAW	10 pieces	1.1
COCONUT, dried	1 ounce	4.6
DATES, dried	10 pieces	6.2
FIGS, dried	10 pieces	17.4
GRAPEFRUIT	½ medium	1.3
GUAVA	1 medium	4.9
KIWI	1 medium	2.6
MANGO, RAW	1 medium	3.7
NECTARINE	1 medium	2.2
ORANGE	1 medium	3.0
PAPAYA	1 medium	5.5
PASSION FRUIT	1 medium	1.9

PEACHES, canned	1 cup	3.2
PEACH, raw	1 medium	1.7
PEARS, canned	1 cup	3.9
PEAR, raw	1 medium	4.0
PINEAPPLE, canned	1 cup	2.0
PINEAPPLE, raw in pieces	1 cup	1.9
PLUM, raw	1 medium	1.0
PRUNES, dried	10 pieces	6.0
RAISINS, seedless	$\frac{2}{3}$ cup	4.0
RASPBERRIES, raw	1 cup	8.4
RHUBARB, Frozen, raw	$\frac{1}{2}$ cup	2.5
STRAWBERRIES, raw	1 cup	3.4
TANGERINE	1 medium	1.9
FRUIT NECTARS		
APRICOT NECTAR	8 ounce	1.5
PEACH NECTAR	8 ounce	1.5
PEAR NECTAR	8 ounce	1.5
NUTS AND SEEDS		
ALMONDS, dried	1 ounce	3.1
BRAZIL NUTS, dried	1 ounce	1.5
PEANUTS, dry roasted	1 ounce	2.3
PECANS, dried	1 ounce	2.2
PISTACHIOS, dried	1 ounce	3.1
SESAME SEED, toasted kernels	1 ounce	4.8
SUNFLOWER SEEDS, dried	1 ounce	2.8
WALNUTS, dried	1 ounce	1.4
BREADS, STARCH AND CEREALS		
ALL BRAN, Kellogg's	$\frac{1}{2}$ cup	10
BRAN FLAKES, Post	$\frac{2}{3}$ cup	6.0
BROWN RICE, long grain, cooked	1 cup	3.5
GRANOLA CEREAL Low fat, Kellogg's	$\frac{1}{2}$ cup	2.9

GRAPE NUTS, Post	½ cup	5.0
OATMEAL, quick, regular, instant, cooked	¾ cup	4.0
POPCORN, air popped	3 ½ cups	4.2
RAISIN BRAN	¾ cup	3.0
SHREDDED WHEAT	1 ounce	2.8
WHOLE WHEAT BREAD	1 slice	1.9
VEGETABLES		
BEANS – KIDNEY, Red	1 cup	13.1
LIMA, Baby	1 cup	14.0
MUNG	1 cup	15.4
NAVY, canned	1 cup	13.4
PINTO, canned	1 cup	11.0
BROCCOLI, RAW, chopped	½ cup	1.3
BRUSSELS SPROUTS, frozen, boiled	½ cup	3.2
CABBAGE, boiled	½ cup	1.7
CARROT, raw	1 medium	2.2
CAULIFLOWER, frozen, boiled	½ cup	2.4
GREEN BEANS, frozen, cooked	½ cup	2.0
LENTILS, Cooked	1 cup	11.0
MUSHROOM, slices, canned	½ cup	1.9
ONIONS, raw	½ cup	1.4
PARSNIPS, cooked	½ cup	3.1
POTATO, baked with skin	1 medium	4.8
POTATOES, mashed from flakes	½ cup	2.4
SPINACH, canned	½ cup	2.6
SPLIT PEAS, Cooked	1 cup	16.3
SQUASH- ACORN, baked	½ cup	4.5
TOMATO, fresh	1 small	1.4
TOMATOES, canned, stewed	½ cup	1.3

HIGH FIBER DIET SAMPLE MENU

30 GRAMS DIETARY FIBER

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
1 svg. Fresh Orange 2 svgs. All Bran Cereal 1 svg. Scrambled Eggs 2 svgs. Whole Wheat Toast 2 svgs. Margarine 1 svg. Milk Coffee Condiments	1 svg. Spaghetti with Meatballs Tossed Lettuce Salad w/ 1 svg. Dressing 2 svgs. Garlic Bread 1 svg. Fruit Cup 1 svg. Milk Condiments	Baked Chicken Breast w/ 1 svg. 1 svg. Baked Potato with Skin 1 svg. Broccoli Spears 1 svg. Cherry Crisp 2 svgs. Whole Wheat Bread 2 svgs. Margarine 1 svg. Milk Condiments

Reference:

Pennington, Jean Ph.D., R.D. *Bowes & Church's Food Values of Portions Commonly Used*. 17th Edition.

KETOGENIC DIET

PURPOSE: The Ketogenic Diet is designed to establish and maintain ketosis. The diet is used for children with myoclonic or atonic seizures who are resistant to anticonvulsant medications or who are experiencing drug-related side effects.

DIET PRINCIPLES: The diet is high in fat and low in carbohydrate to promote ketosis. Medium chain triglyceride (MCT) oil may be used in planning the diet. Fluids are generally limited to 1 cc per calorie.

ADEQUACY: A multivitamin, calcium, and iron supplement should be ordered since the diet does not meet the Dietary Reference Intake (DRIs) for some nutrients. The diet should be used only under strict supervision. Long-term use can compromise growth in children if not monitored.

FOODS ALLOWED: All foods, except those listed as “Foods to Avoid” are allowed in the amounts specified in the individualized meal plan.

FOODS TO AVOID: Cake, candy, catsup, chewing gum, cookies, honey, ice cream, jam, jelly, molasses, pastries, pies, pudding, sherbet, sugar, sweetened condense milk, syrup and **ALL** bread, bread products and cereals, unless they are calculated into the meal plan.

References:

1. Amari A. *Achieving and Maintaining Compliance with The Ketogenic Diet*. Journal of Applied Behavior Analysis. 1995; 28:341.
2. Gash A. *Use of The Traditional Ketogenic Diet for Treatment of Intractable Epilepsy*. Journal of the American Dietetic Association. 1990;90:1433
3. Berryman, S. *The Ketogenic Diet Revisited*. Journal of the American Dietetic Association. 1997; 97: (Suppl 2): S192-S194.
4. Freeman, J. *The Epilepsy Diet Treatment, An Introduction to the Ketogenic Diet*. Demos, NY, NY, 1996.
5. Hemingway C. *The Ketogenic Diet: a 3-to 6- year follow-up of 150 Children Enrolled Prospectively*. Pediatrics. 2001;108:898.
6. Kinsman, S. *Efficacy of the Ketogenic Diet for Intractable Seizure Disorders: Review of 58 Cases*. Epilepsia 1992; 33(6): 1132.
7. Oguni H. *Treatment and Long-term Prognosis of Myoclonic-astatic Epilepsy Of Early Childhood*. Neuropediatrics. 2002;33(3):122.
8. Mandel A. *Medical Costs are Reduced When Children with Intractable Epilepsy are Successfully Treated with The Ketogenic Diet*. J Am Diet Assoc. 2002;102(3):396.
9. Nordli D. *The Ketogenic Diet: Uses and Abuses*. Neurology 2002;58(12suppl 7):S21.
10. Vining E. *Growth of Children on The Ketogenic Diet*. Dev Med Child Neurol. 44(12):796.
11. Vining E. *The Ketogenic Diet*. Adv Exp Med Biol. 2002;497:225.

REACTIVE HYPOGLYCEMIA DIET

PURPOSE: This diet is designed to prevent symptoms of hypoglycemia (low blood sugar), which occur after food ingestion due to carbohydrate sensitivity.

DIET PRINCIPLES: Reactive Hypoglycemia (postprandial) is one of two primary categories of hypoglycemia. Dietary modification for the treatment of reactive hypoglycemia may depend on the specific cause or may vary depending on the individual. The main focus of the diet is to slow the quick absorption and utilization of carbohydrates. Current American Diabetes Association recommendations are as follows:

- Provide adequate calories based on individual needs.
- More frequent meals, usually five to six meals daily.
- Smaller meals, which may help alleviate hypoglycemia symptoms, in individuals who normally consume large meals.
- Appropriately timed meals and snacks to control all symptoms.
- Mixed meals including complex carbohydrates, protein, fat and fiber which can help in delaying absorption of carbohydrates.
- Limit caffeine, which may reduce blood flow and, therefore, glucose supply to the brain.
- Use of carbohydrate counting, which may be helpful in regulating total carbohydrate intake.

ADEQUACY: Calorie levels above 1500 meet the Dietary Reference Intakes (DRIs) for most nutrients. To ensure adequate intake of nutrients in lower calorie intakes, a multivitamin with mineral supplement should be provided.

FOODS ALLOWED: All foods are allowed. However, complex carbohydrates and proteins, which are more slowly absorbed than simple sugars, may be preferable for preventing symptoms of hypoglycemia (sweating, dizziness, weakness, fatigue, confusion, agitation or blurred vision).

FOODS TO AVOID: None.

REACTIVE HYPOGLYCEMIA DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
4 oz. Orange Juice 1 oz. Scrambled Egg 2 sl. Toast 2 tsp. Margarine 8 oz. Milk Condiments Coffee	6 oz. Spaghetti 3 oz. Meatballs 1 sl. Garlic Bread 4 oz. Fruit Cup 8 oz. Milk Condiments	3 oz. Baked Chicken Breast 4 oz. Steamed Potatoes 1 oz. Gravy 4 oz. Broccoli Spears 4 oz. Cherries 8 oz. Milk Condiments
<u>1000 SUPPLEMENTS</u>	<u>1400 SUPPLEMENTS</u>	<u>2000 SUPPLEMENTS</u>
8 oz. Milk	8 oz. Low Fat Fruit Flavored Yogurt	4 oz. Cottage Cheese

Reference: *Manual of Clinical Dietetics*. 6th Ed., Chicago, Ill: American Dietetics Association; 2000.

SODIUM CONTROLLED DIET (2000 – 2500 mg)

PURPOSE: The diet is indicated to reduce hypertension and promote the loss of excess fluids in edema and ascites. This diet is used in the management of essential hypertension, impaired liver function, cardiovascular disease, severe cardiac failure, renal disease and chronic renal failure.

DIET PRINCIPLES: This is a 2000 - 2500 mg sodium (87 - 108 mEq) diet. This diet contains up to one-half teaspoon of table salt daily or the equivalent amount of sodium is allowed in prepared foods. Reading labels of manufactured foods will provide information on sodium content of these foods.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u> Limited to 2 cups per day	Regular whole, low fat, non-fat, evaporated/dried milk, chocolate, cocoa, yogurt, unsalted buttermilk, eggnog.	Buttermilk, malted milk, and milkshake.
<u>MEAT & SUBSTITUTES</u> Limited to 6 oz. per day (cooked weight) Limited to 1 Egg per day	Beef, veal, pork, lamb, chicken, turkey, liver, fresh, frozen, or canned unsalted fish. Peanut butter, cottage cheese. Dried beans and peas cooked without salt.	Sardine, anchovies, marinated meats, brains or kidney; salted, smoked, cured, or canned meat, fish and poultry such as bacon, sausage, ham, Canadian bacon, bologna, luncheon meats, frankfurters, corned beef, dried beef, shellfish, kosher meat, frozen fish fillets; frozen pre-cooked meals, all regular cheeses; commercial vegetarian meat substitute, cheese spreads. Pickled eggs.
<u>BREAD, CEREAL, RICE, & PASTA</u> Limited to 4 servings regular bread per day.	Breads such as white, wheat, sourdough, and French, yeast rolls; low sodium crackers, corn tortillas. All cooked or dry cereals, barley, cornmeal, and cornstarch. Rice, spaghetti, macaroni	Crackers, cornbread, biscuits, and all regular baked goods. Instant seasoned rice, noodles, stuffing mixes, salted popcorn, pretzels, and chips; self-rising cornmeal or flour.

	and noodles cooked in unsalted water, unsalted popcorn, pretzels, chips, and tapioca.	
<u>VEGETABLES</u>	Fresh, frozen, low sodium canned vegetables and vegetable juice.	Sauerkraut, frozen vegetables with sauce, pickled vegetables, regular canned vegetables and vegetable juice, celery.
<u>FRUITS</u>	Fresh, frozen, or canned fruit or fruit juice, raisins, prunes.	Fruits dried with sodium sulfite, crystallized or glazed fruit, maraschino cherries.
<u>FATS</u>	Butter or margarine in limited amounts. Unsalted butter or margarine; cooking fats, oil; unsalted dressing, mayonnaise; light, heavy and sour cream.	Bacon, cheese dips, salad dressing, buttermilk.
<u>BEVERAGES</u>	Most allowed.	Commercially softened water and beverages or foods made with commercially softened water.
<u>MISCELLANEOUS</u>	Unsalted broth, vegetable or cream soups.	Regular canned soups, broth, dehydrated commercial soups, consommé.
<u>SEASONINGS & CONDIMENTS</u>	Basil, bay leaves, chives, cider vinegar, cinnamon, curry powder, dill, garlic, ginger, lemon juice, mustard, nutmeg, onion, paprika, parsley, pimento, rosemary, sage, thyme. Prepared mustard (1 TB.), prepared catsup (1TB.)	Garlic salt, celery salt, onion salt; teriyaki sauce, Worcestershire sauce, MSG, meat tenderizer, olives, pickles, lemon pepper.

SODIUM CONTROLLED DIET SAMPLE MENU

The following sample menu is for an individual on mild sodium restriction, 2000-2500 milligrams (mg) of sodium per day.

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
4 oz. Orange Juice ¾ c. Cold Cereal 2 oz. Scrambled Eggs (Salt-Free) 2 sl. Toast 2 tsp. Jelly 2 tsp. Margarine 8 oz. Milk 6 oz. Coffee	3 oz. Meat Balls 6 oz. Spaghetti 4 oz. Tossed Salad w/Salt- Free Dressing 1 sl. Bread 1 tsp. Margarine 4 oz. Fruit Cup 8 oz. Fruit Punch	3 oz. Baked Chicken Breast 4 oz. Steamed Potato /Salt- Free Gravy 4 oz. Broccoli Spears 1 sl. Bread 1 tsp. Margarine 4 oz. Cherry Crisp 8 oz. Milk

Reference:

Hart, B.E. R.D., and Hamada, A.C.R.D., *Clinical Diet Manual: A Handbook for Medical Nutrition Therapy*. 11th Edition, 1998.

RENAL DIET

PURPOSE: The diet is to be used in the treatment of impaired renal function or renal failure. The purpose of the diet is to reduce the production of wastes that must be excreted by the kidney and to avoid fluid and electrolytes imbalance.

DIET PRINCIPLES: The nutritional management of individuals with renal disease focuses on the intake of protein, sodium, potassium, phosphorus and fluids. The level of restriction of these nutrients depends upon the clinical and biochemical status of the individual. The calculation of each nutrient must be carefully calculated to meet needs of each individual. A Registered Dietitian must be consulted for the careful planning of the diet as it is individualized and comprehensive.

ADEQUACY: Nutritional needs vary from person to person. If the protein allowance of the diet is above 0.8 gram per kilogram of body weight, the diet will meet the Dietary Reference Intakes (DRIs) for most nutrients. When the protein allowance is below 40 grams, it is difficult to meet the DRIs. Specific vitamin/mineral supplementation must be determined on an individual basis. Water-soluble vitamins are advised for hemodialysis and peritoneal dialysis patients. The assistance of a Registered Dietitian is necessary in planning a renal diet.

FOODS ALLOWED: This will vary based on each individual's diet. Usually, the diet is low or restricted in protein, sodium, potassium, phosphorus and fluids.

FOODS TO AVOID: This will vary based on each individual's diet.

DIET PRESCRIPTION IN RENAL DISEASE

<u>Nutrient</u>	<u>Pre-End Stage Renal Disease</u>	<u>Hemodialysis</u>	<u>Peritoneal Dialysis</u>
Protein (gm/kg IBW)	0.6-0.8	1.1- 1.4	1.2-1.5
Calories (kcal/kg/IBW)	35-40	30-35	25-35
Sodium (mg/day)	1000-3000	2000-3000	2000-4000
Potassium (mg/kg IBW)	Typically unrestricted	Approximately 40 mg/kg IBW	Typically unrestricted
Phosphorous (mg/kg IBW)*	8-12	≤ 17	≤ 17
Fluid (ml/day)	Typically unrestricted	Urine output + 500-750 ml or 1000 ml if anuric	2000 + ml per day
Calcium (mg/day)	1200-1600	Depends on serum level	Depends on serum level
% Carbohydrate	55-65	50-60	45-50 (minus CHO in dialysate absorbed)

*Phosphorus

- **Pre-End Stage Renal Disease:** 5-10 mg/kg IBW is frequently cited, 5 mg/kg IBW is practical only when used in conjunction with a very low protein diet supplemented with amino acids.
- **Hemodialysis and Peritoneal Dialysis:** A diet that is higher in protein may make it impossible to meet the optimum phosphorus prescription.

FOOD CHOICE LIST: The renal diet is planned using a food choice list. Foods with similar amounts of protein, sodium, and potassium are grouped together to aid in planning diet patterns. The chart below lists how foods are grouped in the food choice list. The actual list can be obtained from the American Dietetic Association's National Renal Diet.

Average Protein, Sodium, Potassium and Phosphorus Values

<u>Food Group</u>	<u>Amount In One Serving</u>	<u>Protein (gm)</u>	<u>Sodium (Na⁺)</u>		<u>Potassium(K⁺)</u>		<u>Phosphorus (mg)</u>	<u>Calories</u>
			mg	mEq	mg	mEq		
Milk	1/2 cup	4	80	3.47	185	4.74	110	120
Meat	1 oz	7	25	1.1	100	2.56	65	65
Starches	varies	2	80	3.5	35	.89	35	90
Vegetables	varies							
Low K		1.0	15	.65	70	1.8	20	25
Medium K		1.0	15	.65	150	3.8	20	25
High K		1.0	15	.65	270	6.9	20	25
Fruits	varies							
Low K		.5	Tr.	Tr.	70	1.8	15	70
Medium K		.5	Tr.	Tr.	150	3.8	15	70
High K		.5	Tr.	Tr.	270	6.9	15	70
Fats	varies	Tr.	55	2.4	10	.25	5	45
Non-Dairy Milk Substitutes	varies	.5	40	1.7	80	2	30	140
Salt Choices	varies	-	250	11	-	-	-	
Beverage	varies	varies	varies	varies	varies	varies	varies	varies
High-calorie Choices*	varies	tr.	15	.65	20	.51	5	100

Note: The values used in the food lists are approximate averages as nutrients in food vary widely. If the diet is severely restricted in protein and/or potassium, current food nutrient composition tables need to be used in calculating it.

Approximate Composition:

Calories:	2000
Protein:	60 gm.
Sodium:	2000 mg.
Potassium:	2000 mg.

BASIC MENU FRAMEWORK

<u>Food Groups</u>	<u>Serving/day</u>	<u>Protein (gm.)</u>	<u>Sodium (mg.)</u>	<u>Potassium (mg.)</u>	<u>Calories</u>
Milk	1	4	80	185	120
Meat	5	35	125	500	325
Bread/Starch	8	16	640	280	720
Vegetables (Med K)	3	3	45	210	75
Fruit/Juice	3	1.5	Trace	450	210
Fats	10	0	550	100	450
Beverages	3	0	0	180	0
Miscellaneous	5	0	0	0	350
<u>Total</u>		59.5	1440*	1905	2250

* Use salted fats and salted starches to increase sodium intake.

RENAL DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
4 oz. Grape Juice 1 Egg –Scrambled in 1 tsp. Margarine. 1 c. Cold Cereal 1 sl. Toast 1 tsp. Margarine 1 TB. Jelly 4 oz Milk 8 oz. Coffee 2 tsp. Sugar	2 oz. Meat Balls 1 c. Spaghetti 2 oz. Pesto Sauce 4 oz. Lettuce Salad 2 TB. Ranch Dressing 1 sl. Garlic Bread 4 oz. Fruit Cocktail Beverage	2 oz Baked Chicken Breast 4 oz. Steamed Rice 1 tsp. Margarine 8 oz. Peas 1 sl. Bread 1 tsp. Margarine 4 oz. Cherry Crisp Beverage

References:

1. *Clinical Diet Manual- A Handbook for Medical Nutrition Therapy For Porterville Developmental Center*; 12th ed., 2001. Food and Nutrition Management Services, Inc.
2. *National Renal Diet: Professional Guide*. 2nd ed., 2002. The American Dietetic Association.

ADVERSE REACTIONS TO FOODS DIETS

EGG-FREE DIET

PURPOSE: The egg-free diet is designed for individuals with egg allergy.

DIET PRINCIPLES: An egg-free diet is a house diet with the omission of eggs and foods containing eggs. Check labels and avoid ingredients such as egg, egg white, dried egg or albumin.

ADEQUACY: The egg -free diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Low fat or nonfat milk, powdered milk, evaporated milk. Cheese, yogurt and cottage cheese.	Eggnog.
<u>MEAT & SUBSTITUTES</u>	Any fresh, frozen or canned meats, poultry, or fish in at least one serving per day. Other servings may include dry beans, nuts and peanut butter.	Eggs, meat dishes where eggs are used as binders.
<u>BREAD, CEREAL , PASTA, AND RICE</u>	Any breads or rolls made without eggs, all cereal products. Rice, egg-free pasta.	Hot breads, and small rolls made with eggs, commercial baked goods and egg-containing foods such as pancakes, waffles and French toast.
<u>VEGETABLES</u>	All.	Vegetables prepared with eggs.
<u>FRUITS</u>	All.	Fruits prepared with eggs.
<u>FATS</u>	Butter, margarine, cream, cooking fats, oils.	Salad dressings made with eggs such as mayonnaise and Hollandaise sauce.
<u>BEVERAGES</u>	Coffee, tea, carbonated beverages and fruit punch.	Egg containing beverages.
<u>MISCELLANEOUS</u>	Gelatin, sherbet, milk pudding without eggs, fruit pies, fruit ices. Sugar, jelly, molasses, honey, syrup, candy.	Ice cream, cakes, cookies, puddings, custards or pies made with eggs. Marshmallows and meringue toppings.
<u>SEASONINGS</u>	Salt, pepper, spices, vinegar, flavorings, olives, and pickles.	None.

EGG-FREE DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Cold Cereal Diced Ham Toast Margarine Milk Coffee Condiments	Spaghetti with Meatsauce Tossed Salad Dressing Garlic Bread Fruit Cup Milk Condiments	Baked Chicken Breast Steamed Potatoes Gravy Broccoli Bread Margarine Cherry Crisp Milk

GLUTEN-FREE DIET

PURPOSE: This diet is used in the treatment of gluten induced enteropathy (non-tropical sprue, celiac disease). Celiac sprue is a permanent condition requiring adherence to the diet for the individual's entire life.

DIET PRINCIPLES: The diet eliminates those foods that contain gluten, such as wheat, rye, oats, barley, or their derivatives, such as malt from barley. Foods that contain these grains as a base, stabilizer, emulsifier, or thickening agent are also eliminated. Small amounts of gluten can damage the intestines without causing symptoms. Many individuals with gluten sensitivity may have secondary lactose intolerance related to mucosal damage.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Milk	Commercial chocolate milk with cereal additive.
<u>MEAT AND SUBSTITUTES</u>	Meat, fish or fowl, cheese, eggs, any gluten-free processed meats. Dry beans.	Breaded products; commercially prepared meats with cereal fillers, such as bologna, luncheon meats, hot dogs, hamburgers; frozen dinners with gluten stabilizers, creamed or stuffed items, sausage with cereal fillers, commercial chili or tacos, cheese spreads with wheat, cheese mixtures that contain gluten, meat substitutes that contain gluten.
<u>BREAD, CEREAL, RICE, & PASTA</u>	Bread and crackers made with arrowroot, buckwheat, corn, potato, rice, soybean flour, rice wafers; cornbread and muffins with no wheat flour; pure cornmeal tortillas; buckwheat pancakes or waffles if made without wheat flour. Rice hominy, gluten-free pasta, corn-based or pea-based pasta, bean noodles.	All-purpose flour, baking powder biscuits, bran, barley flour, cake, cookie mixes, cracker meal, macaroni, noodles, spaghetti, vermicelli, matzo, rye flour, rye krisp, wheat germ, pancakes, waffles, zwieback, pretzels, bulgur, spelt, durum.

<u>VEGETABLES</u>	Any vegetable or juice. Potatoes.	Creamed or breaded vegetables, canned baked beans. Creamed or breaded potato.
<u>FRUIT</u>	Any fruit or juice.	Some pie fillings.
<u>FATS</u>	Bacon fat, butter, cream cooking fats, fortified margarine, mayonnaise, oils. Gluten-free salad dressing.	Salad dressings containing gluten commercial salad dressing stabilizers.
<u>BEVERAGES</u>	Carbonated beverages, cocoa (if no wheat flour has been added), coffee, milk, tea, fruit juices, drinks, and vegetable juices.	Ale, beer, whiskey, gin, vodka, postum and other cereal beverages, ovaltine, commercial chocolate milk with cereal additive, malted beverages, root beer, and instant coffee containing wheat.
<u>MISCELLANEOUS</u>	Vinegar, nuts, olives, pickles, plain popcorn, peanut butter, potato chips (gluten-free). Cakes, cookies, pastries, etc. prepared with allowed flours; custards, gelatin desserts, homemade puddings (cornstarch, rice, tapioca); rennet desserts, sherbets, except that listed under "Foods To Avoid." Water ice, meringues. Homemade candy from "Foods Allowed." Honey, jam or marmalade, jelly, molasses, syrup, sugar, pure cocoa, pure baking chocolate, coconut, marshmallows.	Gravy, malt extract or flavoring white sauce, cocoa or cocoa syrup containing wheat flour, brewer's yeast (may contain wheat), any foods which list the following ingredients: hydrolyzed vegetable protein, starch (unless specified as corn, tapioca, or potato), emulsifiers, stabilizers, vegetable gum, flavorings, distilled white vinegar and hydrolyzed plant protein. Omit all foods of unknown composition. Any dessert made from wheat, rye, oats or barley such as cakes, cookies, pastries, pies, and pudding. Ice cream and sherbet made with gluten stabilizer. Candy, jam and marmalade made from "Foods To Avoid."

<u>SEASONINGS & CONDIMENTS</u>	Salt, spices, pepper, herbs, gluten- free mustard and catsup.	Any seasoning which lists the following ingredients: hydrolyzed vegetable protein, starch (unless specified as corn, tapioca, or potato), emulsifiers, stabilizers, vegetable gum, flavorings, distilled white vinegar, and hydrolyzed plant protein.
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GLUTEN-FREE DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Cold Rice Cereal Scrambled Egg Gluten-Free Bread Toasted Margarine Milk Coffee Condiments	Gluten-Free Pasta and Meat-balls Gluten-Free Garlic Bread Margarine Tossed Salad w/Gluten-Free Dressing* Fruit Cup Milk Condiments	Baked Chicken Breast Steamed Potato w/Gluten-Free Gravy Broccoli Cherries Gluten-Free Bread Margarine Milk Condiments

* **Read labels.** Commercial salad dressings may contain wheat flour as a thickening agent.

Sugar, salt, pepper and allowed beverage of choice are routinely served with all meals.

COOKING TIPS:

Substitutions for 1 cup of Wheat Flour:

Corn Flour - 1 cup
Fine Cornmeal - 1 scant cup
Coarse Cornmeal - $\frac{3}{4}$ cup
Potato Flour - $\frac{3}{4}$ cup
Rice Flour - $\frac{3}{4}$ cup
Soy Flour - 1 cup plus Potato Flour $\frac{1}{4}$ cup

For thickening substitute for 1 TB. of wheat flour:

Cornstarch, Potato Flour, Rice Starch, Arrowroot $\frac{1}{2}$ TB. (1 $\frac{1}{2}$ tsp.)
Quick Cooking Tapioca - 2 TB.

References:

1. Celiac Disease Foundation, P.O. Box 1265, Studio City, CA 91614-0265, (213) 654-4086 www.celiac.org.
2. Celiac-Sprue Association/USA, P.O. Box 31700, Omaha, NE 68131-0700, (402) 558-0600 www.csaceliacs.org.

MILK-FREE DIET

PURPOSE: The milk-free diet is designed to prevent or reduce symptoms associated with ingesting cow's milk and cow-milk-containing products.

DIET PRINCIPLES: A milk-free diet is a house diet that eliminates all cow-milk-containing products. Foods avoided include milk and milk products. Other food ingredients avoided include cream, butter, dry skim milk, buttermilk and cheese and products containing whey, milk solids, curds, casein or lactose. Lactose is sometimes used as filler in medications.

ADEQUACY: This diet meets the Dietary Reference Intake (DRIs) for most nutrients, except calcium and vitamin D. Depending on the type of milk substitute used, supplementation of calcium and vitamin D may be recommended by the Registered Dietitian.

<u>FOOD FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Milk substitutes made from soybean or rice.	Milk, milk drinks, evaporated milk, powdered milk, condensed milk, buttermilk, yogurt, cocoa. "Non-dairy products" containing casein, lactalbumin or lactoglobulin.
<u>MEAT & SUBSTITUTES</u>	Any fresh, frozen or canned meat, poultry, fish or egg dishes prepared without milk or milk products, dried beans, nuts, peanut butter and tofu.	Cheese, cottage cheese, cold cuts or frankfurters containing lactose fillers, creamed meat, fish or poultry. Peanut Butter w/milk solid fillers.
<u>BREADS, CEREALS, RICE, & PASTA</u>	Whole grain or enriched breads & cereals made without milk. Most sourdough, French and Italian breads. English muffin, soda crackers and matzo.	Any breads and cereals made with buttermilk, milk, butter, or dry milk powder. Prepared mixes, such as muffins, biscuits, waffles, and pancakes. Any packaged creamed, scalloped or au gratin products.

<u>VEGETABLES</u>	All.	Any prepared with milk or milk products.
<u>FRUITS</u>	All.	Any prepared with milk or milk products.
<u>FATS</u> Use sparingly	Margarine and salad dressings, which do not contain milk or milk solids, oils, shortening and bacon.	Butter, margarine containing milk solids, whipped cream, sour cream, cream cheese, half- and half, nondairy creamers and salad dressings containing milk products or lactose.
<u>BEVERAGES</u>	Coffee, tea, fruit punch and carbonated beverages, milk free soy, rice beverages.	Milk containing beverages. Chocolate drinks.
<u>MISCELLANEOUS</u>	Water and fruit ices, gelatin, angel food & sponge cake; cakes, and cookies made from allowed ingredients. Sugars, jam, jellies, plain sugar candy, marshmallow sauce.	Commercial cakes and cookies; custard, pudding, sherbets, ice cream made with milk; any containing chocolate. Milk chocolate. Candies containing milk.
<u>SEASONINGS & CONDIMENTS</u>	Salts, pepper, spices, vinegar, flavorings, olives and pickles.	Seasoning mixes containing milk-protein derivatives such as whey or casein.

MILK-FREE DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Cold Cereal Diced Ham Toast Margarine-100% vegetable Soy Beverage Coffee Condiments	Spaghetti w/Meatballs Tossed Salad Oil/Vinegar Dressing Garlic Bread Fruit Cup Soy Beverage Condiments	Baked Chicken Breast Steamed Potatoes Gravy Broccoli Cherry Crisp Bread Margarine-100% vegetable Soy Beverage Condiments

LACTOSE CONTROLLED DIET

PURPOSE: The lactose controlled diet is designed to prevent or reduce symptoms associated with ingesting lactose-containing products such as milk and other dairy products (for instance, cheese, ice cream, yogurt). It is designed for individuals who have symptoms of lactose intolerance, or are diagnosed with lactase deficiency. The lactose controlled diet is a house diet with the elimination of lactose-containing foods and beverages.

Lactose is sometimes used as filler in medications. Lactate, lactalbumin, lactylate, and calcium compounds are salts of lactic acid and do not contain lactose.

DIET PRINCIPLES: Elimination of all lactose-containing products.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients, except calcium and vitamin D depending on types of milk substitutes chosen. Calcium and vitamin D supplementation may be recommended by the Registered Dietitian.

<u>FOOD FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Milk substitutes and non-dairy products. Milk treated with lactose-reducing enzymes.	Milk, milk drinks, evaporated milk, powdered milk, cheese condensed milk, ice cream, yogurt, cocoa.
<u>MEAT & SUBSTITUTES</u>	Any fresh, frozen or canned meat, poultry, fish or egg dishes prepared without milk or milk products, dried beans, nuts, peanut butter and tofu.	Cheese, cottage cheese, cold cuts or frankfurters containing lactose fillers, creamed meat, fish or poultry. Peanut Butter w/milk solid fillers.
<u>BREADS, CEREAL, RICE, & PASTA</u>	Whole grain or enriched breads & cereals. Most sourdough, French and Italian breads. English muffin, soda crackers and matzoh. Broth type soups.	Any breads and cereals made with buttermilk, milk, or dry milk powder. Prepared mixes, such as muffins, biscuits, waffles, and pancakes. Any packaged creamed, scalloped or au gratin products. Cream soups.

<u>VEGETABLES</u>	All.	Any prepared with milk or cream/dairy products.
<u>FRUITS</u>	All.	Any prepared with milk or cream/dairy products.
<u>FATS</u> Use sparingly	Margarine and salad dressings, which do not contain milk or milk solids, oils, shortening and bacon.	Margarine containing milk solids, whipped cream, sour cream, cream cheese, half-&-half, and salad dressings containing milk products or lactose.
<u>BEVERAGES</u>	Coffee, tea, fruit punch and carbonated beverages, milk free soy, rice beverages and lactase-hydrolyzed milk.	Milk containing beverages. Chocolate drinks.
<u>MISCELLANEOUS</u>	Water and fruit ices, gelatin, angel food & sponge cake; cakes, and cookies made from allowed ingredients. Sugars, jam, jellies, plain sugar candy, marshmallow sauce.	Commercial cakes and cookies; custard, pudding, sherbets, ice cream made with milk; any containing chocolate. Milk chocolate. Candies containing lactose.
<u>SEASONINGS & CONDIMENTS</u>	Salts, pepper, spices, vinegar, flavorings, olives and pickles.	Sour cream, milk gravies, cream sauces, whipped cream, cream cheese.

LACTOSE CONTROLLED DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Cold Cereal Diced Ham Toast Margarine Soy Beverage or Lactase-treated Milk Coffee Condiments	Spaghetti w/Meatballs Tossed Salad Oil/Vinegar Dressing Garlic Bread Fruit Cup Soy Beverage or Lactase-treated Milk Condiments	Baked Chicken Breast Steamed Potatoes Gravy Broccoli Cherry Crisp Bread Margarine Soy Beverage or Lactase-treated Milk Condiments

TYRAMINE RESTRICTED DIET

PURPOSE: The diet is designed to prevent a serious hypertensive drug-nutrient interaction between monoamine oxidase inhibitor drugs and pressor amines, tyramine and dopamine, in foods. These amines are normally oxidized to harmless metabolites by monoamine oxidase, but this enzyme is inhibited by certain drugs. It is recommended that dietary compliance continue for 2 weeks beyond drug treatment.

DIET PRINCIPLES: As a general rule, all protein-rich foods that have been aged, dried, fermented, pickled or bacterially contaminated should be eliminated from the diet. The tyramine content of foods can vary greatly due to differences in processing, fermentation or ripening. Prolonged food storage, room temperature and spoilage will also increase the tyramine content of foods; therefore, all foods, especially those containing meat, fish or poultry, should be fresh, fresh frozen or canned. Meats purchased fresh should be prepared and eaten on the day of purchase or stored in the freezer immediately, because fresh foods stored under refrigeration can ferment. Perishable refrigerated items should be consumed within 48 hours of purchase. If storage condition of food is unknown, it should be avoided.

(*Note: Special adaptation will be needed if a “cook chill” food service is utilized).

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Fresh milk, buttermilk, yogurt, cream, sour cream, cream cheese, cottage cheese, ricotta cheese, processed cheese, ice cream	All aged and mature cheeses like cheddar, swiss, cheese spreads, cheese casseroles or any product made with aged cheese such as salad dressing; any outdated or non-pasteurized dairy product.
<u>MEAT & SUBSTITUTES</u>	Fresh meat, poultry and fish cooked and eaten on the day of purchased or stored in freezer; canned meat, poultry and fish eaten immediately after opening; luncheon meats except those in “Foods to Avoid”, hot dogs, bologna and liverwurst eaten immediately after opening. Fresh or canned tuna, mackerel, anchovies or pilchards may be used with caution.	Pepperoni, salami, pastrami, mortedella and air dried sausage; smoked or pickled fish; non-fresh meat or poultry; any leftover foods containing meat, fish or poultry; protein supplements; tofu and soy products.

<u>BREAD, CEREALS, RICE & PASTA</u>	All except in “Foods to Avoid.”	Any containing cheese.
<u>VEGETABLES</u>	All except in “Foods to Avoid.”	Any overripe, spoiled, moldy or fermented vegetable; Italian green beans, snow peas, broad bean pods; sauerkraut, kimchee, overripe avocado.
<u>FRUITS</u>	All except in “Foods to Avoid.”	Any overripe, spoiled, moldy or fermented fruit or banana with peel.
<u>MISCELLANEOUS</u>	All except in “Foods to Avoid.”	Yeast extracts, meat extracts, meat tenderizers, bouillon cubes; instant or canned soups; soy sauce; gravies and sauces containing meat extracts or non-fresh meats.

TYRAMINE RESTRICTED DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Scrambled Eggs Toast Margarine Milk Condiments	Spaghetti w/Meatballs Tossed Salad Oil/Vinegar Dressing Garlic Bread Fruit Cup Milk Condiments	Baked Chicken Breast Steamed Potatoes Gravy Broccoli Cherry Crisp Bread Margarine Milk Condiments

References:

1. Pronsky, Z. *Food Medication Interaction*, 11th ed., Birchrunville, PA: Food-Medication Interactions; 2000.
2. *Manual of Clinical Dietetics*. 6th ed. Chicago, Ill: American Dietetics Association; 2000.

EATING DISORDER DIET

PRADER-WILLI SYNDROME (PWS)

PURPOSE: Prader-Willi Syndrome is a genetic disorder resulting in mild to moderate levels of mental retardation. Individuals with PWS have an insatiable appetite, a marked obsession with food and excessive weight gain (this usually occurs after ~ 2 years of age). PWS individuals have a dysfunctional hypothalamus that doesn't allow appetite control or feeling of satiety. Most health complications are related to that of obesity (i.e.: heart disease, hypertension, diabetes). The hyperphagia coupled with the reduced metabolic rate secondary to reduced muscle indicates the need for a very reduced caloric diet, behavior modification and consistent physical activity.

DIET PRINCIPLES: Use the Body Mass Index (BMI) to set a weight goal or an appropriate weight range. The BMI values can identify if one is of normal weight, severely overweight or morbidly obese (see Table1). Caloric needs for those with PWS are based upon the individual's height:

10-14 kcal /cm of height	= for weight maintenance
7-8 kcal /cm of height	= for weight loss

ADEQUACY: It may be difficult to meet the Dietary Reference Intakes (DRIs) when daily caloric requirement is less than 1500 calories. Multivitamin and mineral supplementation should be evaluated on an individual basis.

FOODS ALLOWED: All foods allowed but need to follow meal plan and make adjustments when special treats are consumed. Individuals should choose foods that are higher in fiber, as they add bulk and may help an individual feel satisfied. Meal patterns should include a large salad at the lunch and dinner meal. Individuals can use lemon juice or seasoned rice vinegar to top the salad (no calories/fat). Vegetables should be kept handy for snacks.

FOODS TO AVOID: Soda, punch and other sweet drinks will provide a lot of unwanted calories and no nutritional value. Individuals should encourage more water intake and/or other calorie free drinks such as coffee, tea, and sugar-free drink. Beware of juices as they can provide a lot of extra calories in small volume.

SPECIAL CONSIDERATIONS WHEN EATING OUT: When eating at a restaurant, individuals can follow these simple suggestions: plan what you will order before getting to the restaurant; avoid selections with words like super size, supreme, colossal or large – these meals have larger portions than what is needed; select items that are baked, broiled, or steamed; ask for sauces, dressings or butter to be omitted or put on the side for better portion control; ask for low calorie substitutes; avoid ordering dessert. If others are eating dessert than try some fresh seasonal fruit or have everyone share one dessert.

Table 1 – BMI Guidelines for Adults with PWS

	Underweight	Acceptable	Overweight	Severely Overweight	Morbidly Obese
Men	< 20.7	20.7 – 27.8	> 27.8	> 31.1	> 45.4
Women	<19.1	19.1 – 27.3	> 27.3	> 32.3	> 44.8
Health Hazard	Unlikely weight for an individual w/PWS. May be associated with health problems.	Attainable for some individuals w/PWS. Lowest health hazard.	Attainable for most individuals with PWS. Has some health hazards.	Increased disease risk.	Weight reduction may be lifesaving.

References:

1. Carolyn J. Hoffman, MS, RD; Deborah Aultman, RD; Peggy Pipes, MPH, RD: *A Nutrition Survey of Recommendations for Individuals with Prader-Willi Syndrome Who Live in Group Homes*. Journal of American Dietetic Association, 1992; 92:828.
2. Karen H. Borgie, MA, RD. *Nutrition for Adolescents and Adults with Prader-Willi Syndrome*. Prader-Willi California Foundation, 1995.
3. Prader-Willi Association (USA) at www.pwsausa.org.
4. Prader-Willi - Food Pyramid at www.pwsausa.org/syndrome/foodpyramid.htm.

RELIGIOUS DIETS

ISLAMIC DIET

PURPOSE: This diet is designed to honor and respect Islamic religious obligations.

DIET PRINCIPLES: In general Islam allows Muslims to eat everything, which is good for health. It restricts items such as pork and its by-products as well as any kind of intoxicating drinks and narcotics. There are few among the Islamic faith who believe that adopting a vegan diet (free of meats, dairy products and eggs) is the easiest way for Muslims to live in accordance with the ethical, environmental and health precepts of Islam.

ADEQUACY: The diet excluding only pork and pork by-products meets the Dietary Reference Intakes (DRIs) for most nutrients.

FOODS ALLOWED: All except those listed in “Foods to Avoid”.

FOODS TO AVOID: Pork and pork by-products.

ISLAMIC DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Scrambled Eggs Cold Cereal Toast Margarine Milk Coffee Condiments	Spaghetti Meatballs Marinara Sauce Tossed Salad Salad Dressing Garlic Bread Fruit cup Milk Coffee Condiments	Baked Chicken Breast Steamed Potatoes Gravy Steamed Broccoli Bread Margarine Cherries Milk Coffee Condiments

KOSHER DIET

PURPOSE: This diet is for persons who wish to observe Jewish dietary laws and the practice known as Kashrut. The kosher diet may also be acceptable to people of the Muslim faith.

DIET PRINCIPLES: The word kosher means correct and acceptable to eat. It refers to the application of Jewish dietary laws to food preparation and consumption. Jewish dietary law divides foods into 2 categories: foods, which are never acceptable and foods which may be consumed when certain preparation practices are followed. The following are generalized descriptions of Jewish dietary laws and the terms associated with the laws. It is best to ask an individual or his/her family about the level of dietary observance, as this can vary from individual to individual. A local rabbinical council can also provide advice on the use of foods and dietary practices.

Most foods are classified as *Pareve* (neutral). This includes eggs, kosher fish, ices, beverages, fruits, vegetables and grain products. *Pareve* foods may be used as a part of a meal with either meat or dairy foods. When they are cooked together with meat or dairy foods they are classified as either meat or dairy.

Products which are considered unclean or non-approved are *treif*. Pork, pork products, shellfish, eel, shark, catfish, whale, porpoise, game birds, and rabbits are *treif*. An egg with a blood spot is considered *treif*. *Treif* are not eaten.

Dairy foods (*milchig*) and meats (*fleishig*) are never eaten, served or cooked together. Separate sets of dishes, utensils and cookware are used for preparing dairy and meat dishes. The intervals between eating dairy and meat foods vary depending on the individual. Usually, dairy products may be eaten at least one-half hour before a meat meal. After a meat meal, the interval for consuming dairy foods is between 1 to 6 hours, depending on custom.

Beef, lamb, veal, chicken, turkey, and other poultry products are considered kosher meats. These foods must come from animals which both chew their cud and have split hooves. Kosher meats are also slaughtered in a ritual manner which is considered humane. This is followed by a process which removes the blood by salting and soaking.

Prepared, pre-packaged and processed foods must display a symbol which designates them as kosher. Not all symbols and certifications are acceptable to all individuals. The following are symbols used to indicate kosher products:

- U- Copyrighted by the Union of Orthodox Jewish Congregations of America.
- K- Copyrighted by Kashrus Laboratories. Does not guarantee a product is kosher, only certifies rabbinical supervision.
- VH- Copyrighted by Vaad Harabonim.
- cRc- Copyrighted by Chicago Rabbinical Council.
- MK- Copyrighted by Montreal Vaad Hair.

When providing a kosher diet in a non-kosher kitchen, it is best to consult with the individual or his/her family regarding personal customs.

Since most food service or kitchen facilities are non-kosher, it may be easiest to serve frozen meals which are certified kosher. When serving these meals, they should be sealed when served to the individual. The individual should then open and eat the foods. It would also be appropriate to use new disposable, single-use utensils, pans and flatware.

Special Planning for Individuals Receiving the Kosher Diet:

- The sodium content of frozen kosher meals may not allow their use on restricted sodium diets.
- During essential medical treatment, necessary non-kosher foods may be used. Individuals may consult a rabbi if this is under consideration.
- Some individuals observing kosher diet practices may prefer a cold evening meal on Saturday (Sabbath), due to the traditional restriction against cooking on the Sabbath.
- The observance of Jewish holidays (Passover and Yom Kippur) should be carefully planned. Special foods marked “kosher for Passover” are preferred by many. The observance of Yom Kippur includes a complete fast, which may be medically contraindicated for some. Consultation with a rabbi is recommended.

ADEQUACY: This diet meets the Dietary Reference Intakes (DRIs) for most nutrients.

<u>FOODS FOR THE DAY</u>	<u>EXAMPLES OF FOODS ALLOWED</u>	<u>EXAMPLES OF FOODS TO AVOID</u>
<u>MILK & MILK PRODUCTS</u>	Milk, cheese, cream, yogurt, sour cream, and cottage cheese with proper certification.	All when combined with meat in a meal or when meat is served.
<u>MEAT & SUBSTITUTES</u>	<p>Meat: All animals which chew cud (ruminants) and have split hooves and turkey, chicken, duck, goose, and Cornish game hens, slaughtered in the prescribed manner. Meat and poultry packed and labeled kosher or from a kosher foodservice facility or caterer.</p> <p>Kosher fish with fins and scales. Canned fish with fins and scales. (Halibut, haddock, whitefish, salmon, tuna, sardines, gelfite fish).</p> <p>Eggs prepared in their shell (soft or hard cooked). Eggs cooked in the microwave.</p> <p>Beans, prepared any way.</p>	<p>Pork, pork products, non-kosher meats, game birds, meat served with dairy products, kosher meat prepared in non-kosher establishments, animals that eat meat.</p> <p>Shellfish (clams, crab, lobster). Non-kosher fish (turbot, sturgeon, catfish, shark, whale, porpoise, eel).</p> <p>Raw eggs, eggnog, pan-prepared eggs, eggs with blood spots, eggs from wild birds.</p> <p>Beans prepared with milk or milk products if served with meat.</p>
<u>BREAD, CEREALS, RICE & PASTA</u>	<p>Bread and ready baked products with certification. Matzo.</p> <p>Cereals with certification. Pastas and rice, which are certified, cooked in disposable dishes in microwave.</p>	<p>Bread made with non kosher products (lard), bread made on non-kosher premises, bread made with milk or butter served with meat.</p> <p>Cereals without certification or those cooked on non-kosher premises. Any cereals containing glycerine, stearates, mono-and diglycerides, vegetable shortening or gelatin. Pastas and rice made on non-kosher premises or combined with milk and meat in a casserole.</p>

<u>VEGETABLES</u>	All vegetable juices which are certified. Fresh and raw vegetables and salads. Frozen and canned vegetables. Pre-prepared vegetables certified as kosher. All cooked in the microwave in disposable dishes or prepared with single-use utensils. White or sweet potatoes cooked in disposable dishes in microwave or baked.	Non-kosher certified tomato products. Beans, pre-prepared vegetables, and vegetables processed in a non-kosher facility. White or sweet potatoes made on non-kosher premises and combined with milk and meat in a casserole.
<u>FRUITS</u>	All fruit juices. Fresh and raw fruits and fruit salads. Dried, canned and frozen fruits. Fruit desserts and pre-prepared fruits certified as kosher. All prepared with single-use utensils.	Uncertified grape juice. Fruits and fruit desserts prepared on non-kosher premises.
<u>MISCELLANEOUS</u>	<p>Kosher bouillon cubes. Kosher soup mixes.</p> <p>Butter with a dairy meal, margarine and mayonnaise, non-dairy creamer. Pure vegetable oil and shortening with kosher certification. Salad dressing certified as kosher. Peanut butter.</p> <p>Certified cake, pie, cookies, pastries, custard, puddings, ice cream and sherbet with dairy meal only. Gelatin made with agar or carrageenan base, sorbet.</p> <p>Coffee, tea, decaf coffee, carbonated beverages, and punches. Salt, pepper.</p> <p>Honey, sugar, certified jams and jellies, sugar substitutes. Certified chocolate and candies. Certified commercial enteral products and infant formulas.</p>	<p>All others.</p> <p>Butter with a meat meal.</p> <p>Lard and shortening with animal fat.</p> <p>Cake, pies, cookies, pastry, custard, pudding, ice cream, and sherbet made in a non-kosher facility.</p> <p>Marshmallows, gelatin and gelatin-containing products.</p> <p>Uncertified grape jam or jelly.</p>

KOSHER DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>1400</u>	<u>DINNER</u>	<u>2000</u>
Orange Juice Scrambled Egg Toast Margarine Cold Cereal Milk Condiments	Frozen Kosher Meal: Roast Beef Gravy Noodles Garden Vegetables Diced Pears Variety Bread Margarine Condiments	Milk	Frozen Kosher Meal: Chicken Potatoes Spinach Fruit Cocktail Variety Bread Margarine Condiments	Milk

References:

1. American Dietetic Association: *Manual of Clinical Dietetics*. 6th Ed. Chicago, IL: Chicago Dietetic Association, South Suburban Dietetic Association, Dietitians of Canada. 2000.
2. DeYoung, L. Ed. *Mayo Clinic Diet Manual: A Handbook of Dietary Practices*. 7th Ed. St. Louis, MO: Mosby, 1994.
3. *How Do I Know It's Kosher?-- An OU Kosher Primer*. Available at: <http://www.ou.org/kosher/primer.html>. Accessed September 19, 2001.
4. Judaism 101: Kashrut: *Jewish Dietary Laws*. Available at: [http://www.jewfaq.org/koshrut,htm](http://www.jewfaq.org/koshrut.htm). Accessed September 19, 2001.

VEGETARIAN DIETS

PURPOSE: These diets are designed to serve the needs of individuals who choose to omit all or some animal products for religious reasons, health concerns, environmental considerations, humanitarian issues, ethical concerns and economic or political reasons.

DIET PRINCIPLES: Vegetarian diets are designed to omit all or specified animal products.

ADEQUACY: Appropriately planned vegetarian diets are healthful and nutritionally adequate. Careful planning is necessary in order to meet the Dietary Reference Intakes (DRIs) for vitamins and minerals. A consultation with a Registered Dietitian is recommended. A daily multivitamin-mineral supplement is recommended with a vegan diet.

TYPES OF VEGETARIAN DIETS

<u>Type</u>	<u>Foods Included</u>	<u>Foods Excluded</u>
Lacto-ovo-vegetarian	Fruits, grains, legumes, nuts, seeds, vegetables, milk and milk products, eggs.	Meat, poultry, fish.
Lacto-vegetarian	Fruits, grains, legumes, nuts, seeds, vegetables, milk and milk products.	Meat, poultry, fish, eggs.
Ovo-vegetarian	Fruits, grains, legumes, nuts, seeds, vegetables, eggs.	Meat, poultry, fish, milk and milk products.
Pesco-vegetarian	Fruit, grains, legumes, nuts, seeds, vegetables, milk and milk products, eggs, fish.	Meat, poultry.
Vegan	Fruits, grains, legumes, nuts, seeds, vegetables.	Meat, poultry, fish, eggs, milk and milk products.

LACTO-OVO-VEGETARIAN DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Scrambled Eggs Cold Cereal Toast Margarine Milk Coffee Condiments	Spaghetti Marinara Sauce Tossed Salad with Dressing Garlic Bread Fruit Cup Milk Condiments	Veggie Burger Steamed Potatoes Vegetarian Gravy Broccoli Cherries Bread Margarine Milk Condiments

VEGAN DIET SAMPLE MENU

<u>BREAKFAST</u>	<u>LUNCH</u>	<u>DINNER</u>
Orange Juice Oatmeal Toast Peanut Butter Jelly Coffee/Tea Condiments	Spaghetti Marinara sauce Tossed Salad with Dressing Mixed Nuts Garlic Bread Fruit Cup Beverage Condiments	Veggie Burger Steamed Potatoes Vegetarian Gravy Broccoli Cherries Margarine Bread Beverage Condiments

METABOLIC DISORDER DIETS

MAPLE SYRUP URINE DISEASE DIET (MSUD)

PURPOSE: This diet is indicated for individuals who have maple syrup urine disease which results from the deficiency of a single common enzyme that catalyzes the oxidative decarboxylation of the Branched Chain Amino Acids (BCAA), leucine, isoleucine, and valine. The diet needs to be continued indefinitely without liberalization.

DIET PRINCIPLES: The diet limits isoleucine, leucine, and valine intakes to amounts needed for protein synthesis. Nitrogen is provided as L-amino acids.

ADEQUACY: The individual's daily requirements for kilocalories, protein, leucine, isoleucine, and valine should be assessed by the Registered Dietitian.

FOODS ALLOWED: The diet for MSUD necessitates the use of a semisynthetic formula. Small amounts of low-protein foods are used to provide the BCAA needs of the person. The amount of milk, if any, to be added to meet the person's needs for the BCAA is also estimated.

FOODS TO AVOID: High-protein foods for which the BCAA-containing ingredients cannot be determined are omitted from the diet.

PHENYLKETONURIA DIET (PKU)

PURPOSE: The purpose of the diet is to treat phenylketonuria (PKU). In untreated or late-treated individuals, the diet may be used to potentially improve behavior.

DIET PRINCIPLES: This diet is to control phenylalanine intake and to assist in reducing serum phenylalanine. The diet includes a phenylalanine-free supplement, and low-protein/low-phenylalanine foods. Each diet plan is specially designed by a Registered Dietitian to meet individual needs and goals.

ADEQUACY: The diet is adequate with provision of a phenylalanine-free supplement. Phenylalanine-free formula is essential since a phenylalanine-restricted diet is not nutritionally adequate by itself. A vitamin supplement may be necessary depending on fortification of phenylalanine-free formula.

FOODS ALLOWED: Low-protein cereals, low-protein pasta, fruits, vegetables, bread and phenylalanine-free foods.

FOODS TO AVOID OR RESTRICTED: All high-protein foods such as dairy products, eggs, fish, legumes, meat, nuts, poultry and foods containing aspartame (or “Nutrasweet”®).

Additional References:

1. Dolan, Barbara E. RN, MSN, Koch, Richard MD, Bekins, Christina, MS, RD, Schuett, Virginia E. MS, RD. *Diet Intervention for Adults with Untreated PKU*. National PKU News; 1999.
2. Mead Johnson Nutritionals. *Dietary Management of Metabolic Disorders*; 1994.
3. Ross Laboratories. *The Ross Metabolic Formula System Nutritional Support Protocols*; 1993.
4. Scientific Hospital Supplies. *Metabolic Checklist- Nutritional Products for Inherited Metabolic Disorders*; 1993.
5. Seisa, Ann C. RN, BSN, Corder, Carolyn, MS, RD, Koch, Richard, MD. *The Successful Adaptation of an Untreated PKU Adult from a State Developmental Center to Community Residential Living*. The Lanterman Provider; 1998.

ENTERAL ALIMENTATION

ENTERAL ALIMENTATION

(Tube Feeding)

PURPOSE: Tube feedings are indicated as means of nourishment when normal swallowing has been inhibited or interfered with as in:

1. Difficulty with sucking and/or swallowing with demonstrated risk of aspiration.
2. Anomalies: Cleft palate, Esophageal atresia, Tracheoesophageal fistula, other GI tract anomalies.
3. Neurologic disorders.
4. Head and neck surgery.
5. Mandibular fractures.
6. Severe comatose or unconscious states.
7. Trauma or paralysis of oral pharyngeal cavity.
8. When nutrient needs cannot be met orally: Anorexia, weight loss, growth failure, inadequate nutrient intake, hypermetabolic states, chronic non-specific diarrhea, short gut syndrome.
9. Other GI problems.

ADEQUACY: The adequacy of a tube feeding is dependent on the product used and the quantity provided. Refer to product information chart and consult with a Registered Dietitian for specific information. Standard and modified (e.g. concentrated, diluted, fortified, etc.) formulas must be analyzed by a Registered Dietitian to assure the adequacy of caloric, carbohydrate, protein, vitamin, mineral and fluid content.

DIET ORDERING:

All orders for tube feeding must include the following information:

- Product(s).
- Formula volume per feeding (cc only) and total formula volume/24 hours (cc only).
- Amount of water or other liquid added to formula per feeding (if any).
- Frequency of feedings: include amount of feeding and administration times.
- Total calories per 24 hours.
- Additives (Carbohydrate or Protein powders, etc.: Amount added to each feeding in tablespoons and total amount per 24 hours).
- Tube Type (G.T., N.G. or J.T.).
- Feeding Method: Pump (including administration rate), Bolus or Gravity (number of minutes for feeding).
- Flush (es).
- Type of system: closed or open.

References:

1. Brummit P and Norner B. *Practical Considerations in Enteral Nutrition*. Evansville, IN: Mead Johnson & Company; 2001.
2. Department of Pharmaceutical Services. *Parenteral and Enteral Handbook*. Los Angeles, CA: UCLA Medical Center, 1997
3. Gottschlich MM, ed. *The Science and Practice of Nutrition Support*. Dubuque, IA: Kendall/Hunt Publishing; 2001.
4. Hall JC. *Best Practice Guidelines for Tube Feeding: A Nurses Pocket Manual*. Columbus, OH: Ross Products Division, Abbott Laboratories, 1997.
5. Matarese L and Hamilton C. *Nutrition Support: Indications and Efficacy*. In: Skipper, A ed. *Dietitian's Handbook of Enteral and Parenteral Nutrition*. Gaithersburg, MD: Aspen Publishers, Inc.; 1998.

APPENDIX

BODY MASS INDEX (BMI)

BMI, the ratio between body weight and height, is used by more doctors to evaluate health risk. BMI is an excellent indicator of nutritional health and provides good information about general health.

BMI is only a guideline. It may not be appropriate for everyone, including children, pregnant women, the frail elderly and trained athletes.

$$\text{BMI} = \frac{\text{weight in kilograms}}{\text{height in meters}^2} \quad \frac{\text{wt(kg)}}{\text{ht(m)}^2}$$

$$\text{BMI} = \frac{\text{weight in pounds}}{\text{height in inches}^2} \quad \frac{\text{wt(lb)} \times 705}{\text{ht(in)}^2}$$

BMI values are probably most valuable for evaluating degrees of obesity and are less useful for evaluating non-obese people's body fatness.

BMI Categories*

- Underweight=<18.5
- Normal weight=18.5-24.9
- Overweight=25-29.9
- Obesity= 30-39.9
- Extreme obesity=40+

*Refer to table on following page

Body Mass Index Table

Normal							Overweight					Obese										Extreme Obesity																	
BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54			
Height (inches)	Body Weight (pounds)																																						
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258			
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267			
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276			
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285			
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196	202	207	213	218	224	229	235	240	246	251	256	262	267	273	278	284	289	295			
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299	304			
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308	314			
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324			
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328	334			
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255	261	268	274	280	287	293	299	306	312	319	325	331	338	344			
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230	236	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348	354			
69	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236	243	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358	365			
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369	376			
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379	386			
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390	397			
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272	280	288	295	302	310	318	325	333	340	348	355	363	371	378	386	393	401	408			
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412	420			
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431			
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443			

Source: Adapted from *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*.

ESTIMATED CALORIE REQUIREMENTS
FOR SPECIFIC DEVELOPMENTAL DISABILITIES
(according to individual heights)¹

Developmental Disability	Guide for Calorie Intake
<u>Cerebral Palsy</u> A disorder of muscle control or coordination resulting from injury to the brain during its early (fetal, perinatal and early childhood) stages of development. There may be associated problems with intellectual, visual or other functions.	13.9 kcal/cm (35.3 kcal/in) 5-11 years. Mild to moderate activity level. 11.1 kcal/cm (28.2 kcal/in) 5-11 years. Severe restrictions in activity. Adults with athetosis- extra 500 kcal/day ²
<u>Cystic Fibrosis</u> A chronic disease of childhood. Associated with it are chronic pulmonary dysfunction, malabsorption, steatorrhea, and malnutrition. Growth failure is common.	14 kcal/cm (35 kcal/in) 1-3 years. 15 kcal/cm (38 kcal/in) 4-6 years. 18 kcal/cm (45 kcal/in) 7-10 years.
<u>Down Syndrome</u> Results from an extra #21 chromosome causing development problems such as congenital heart disease, mental retardation, small stature, and decreased muscle tone.	16.1 kcal/cm (40.9 kcal/in) boys. 1.43 kcal/cm (36.3 kcal/in) girls.
<u>Prader-Willi Syndrome</u> A disorder characterized by uncontrollable eating habits, inability to distinguish hunger from appetite, severe obesity, poorly developed genitalia and moderate to severe mental retardation	Adult recommendations: ³ 10-14 kcal/cm -maintenance 7-8 kcal/cm - weight loss 1,000 kcal /day or more, encourage daily aerobic exercise and control access to food
<u>Spina Bifida</u> (Myelomeningocele) Results from a midline defect of the skin, spinal column, and spinal cord, characterized by hydrocephalus, mental retardation, and lack of muscular control.	7 kcal/cm (17.78 kcal/in) for weight loss and as low as 500 kcal/day for severely immobilized. As a general recommendation, use 50% of the kcal level of a normal child.

¹Heinrich, E & Rokusek, C. 1992. Nutrition and Feeding for Persons with Special Needs. South Dakota University Affiliated Program (SDUAP) University of South Dakota, School of Medicine and the South Dakota Department of Education & Cultural Affairs - Child and Adult Nutrition Services, Pierre, SD.

² Johnson RK, Goran, MI, Ferrara, MS, Poehlman, ET. "Athetosis increases resting metabolic rate in adults with cerebral palsy." *J. Am Diet Assoc.* 95:145-148, 1995

³Hoffman, CJ, Altman, D. & Pipes, P. "A nutrition survey of and recommendations for individuals with Prader-Willi Syndrome who live in group homes." *J. Am Diet Assoc.* 92:823-835.

Note: This chart was developed for children but can be used as a starting point for adults because some adults are the size of children. Monitor weight and adjust calorie intake as needed.

HIGH RISK CONDITIONS

Listed below are high risk conditions that require Medical Nutritional Therapy by a Registered Dietitian:

1. High risk cardiovascular indicators.
2. Protein depletion – serum albumin 3.0 or below.
3. New long bone fracture.
4. Unstable GI conditions.
5. Renal failure.
6. Cancer.
7. Consistent meal refusal or inadequate intake of meals (50% or less).
8. Decubitus ulcer (stage 2 – 4).
9. Chronic underweight (10% or below).
10. Chronically poor oral intake of food and/or liquid resulting in nutrition deficiencies or dehydration.
11. Unplanned weight loss:
 - 1 week 2% or greater
 - 1 month 5% or greater
 - 3 months 7.5% or greater
 - 6-12 month 10% or greater,
 - or a steady gain or loss that doesn't fall into the above %'s.
12. Obesity (20% or more above acceptable weight range) with one or more existing medical conditions impacting nutritional status.
13. Dysphagia with documented aspiration, which impacts nutritional status.
14. Type I diabetes or poorly controlled Type II diabetes.
15. Increased metabolic needs i.e. burn, trauma, surgery, fever, infection.
16. Uncontrolled hypoglycemia.
17. Food/medication interactions having an active impact on nutritional status.
18. Dehydration.

SUGGESTED REFERENCES FOR ADDITIONAL INFORMATION

1. "Nutrition in comprehensive program planning for persons with developmental disabilities." *Journal of American Dietetic Association*. 1997;97:189-193.
2. "Translation of diabetes nutrition recommendations for healthcare institutions." *Journal of American Dietetic Association*. 1997;97:52-53.
3. "Dietary reference intakes for energy, carbohydrates, fiber, fat, fatty acids, cholesterol, protein, and amino acids." *Journal of American Dietetic Association*. 2002;102:1621-1630.
4. "Liberalized diets for older adults in long-term care." *Journal of American Dietetic Association*. 2002;102:1316-1322.